

Usage of Contaminant & Became info
The is Planing to bleed Capreselles water
So all ~~PFAS~~ are total
PFAS is under 70 ppt continued
until our new filter system
installed.

All installations are ^{just} all PFAS
capable will be non-detect after
installation.

~~Construction will not be done~~
~~any~~

Start blending known with
new a few to test - deplete
reserves. Test results will
be posted on web site and
we will continue to monitor & test
frequently.

Mayer Report
all PFAS below 20
testing for 14

ASTOR new data ✓ study out of
ATSDR ^{agency} Toxicology Substances & Disease Registry
Exit Interview w/ State auditors?
days & time available

~~DOH~~ - not in partnership w/ EPA or BOH

NET
NW.6

Guidance from WA state notify authors
if the combined total of 5 ~~compounds~~
similar PFAS compounds is over
20 ppt. Notification is to contact
your health care provider ~~with~~
~~question~~ if you are a member
of a specific group. ~~State~~ listing
the groups pregnant & nursing, infants.

for
health
care
advice

last test showed we were at ²⁹~~25~~ ppt.
for the 5 compounds (Sweden 10)

PFOA - 37.4

PFNA - 0

PFHxS - 35.6

PFOS - 0

PFHPA - 6.1

PFxA - 21

all other nondetect

1
mle
ytd

37
36
19
21
100

00

How do we treat for iron?

pressure
filter
nitrogen-burn
pre-
chlorinate ①
② pressure filters
③ chlorinated again

Steve 4 well heads
after treatment

Steve

results validated - data validated
3rd party
lab sends to 3rd party or Steve

Navy to sample wells. need agreement

May start November 28th sampling

Public meeting Nov. 22
11-2 } Camp Casey
5-9 }

30 many people plus contractor

Jesse
WW Operator pump II #8460

~~Roxall~~ 360-713-1886

New Utilif Acct 3

Old 401 Utilif acct broken Replaced
by 410 water, 420 sewer, 434 storm water

Begin black and white books
After we have selected to get new acct.
All fees & expenses will now
be tracked individually

410 - Water - John Qun

420 - Includes sewer rate increase as
given adopted in 3rd Qtr 2016
includes capital projects
included in this capital
Project list at transfer

EPA #3
for

merging
containing
of new
W
funded
needed?

420 - first file year of SW oblig
Rate ~~not~~ adopted 3rd Qtr 2016
includes operating cost & ^{repair} ~~depreciation~~
of SW infrastructure.

UCMR - Unregulated Contaminant
Monitor Recommendation

PQL

Practical Quantile Level

MDL

Method detection level

PFAS ^{total} ~~chain~~

10 ppt. for PFOS
20 ppt

0.2 for PFOA
95% level
of confidence

ATSDR agency for toxic substances & disease registration Branch of CDC
Centers for Disease Control

1-109
14-29 (291)
291
109
400

Michele & Jerry Lind?
Long
Coffee Shop

all want meeting
about signs

206-321-1919 Mandy

Thurs

Roy Zipp EIS comments
PFOA

678-5287

20 Keystone Well
Cayeville water supply

~~Hele Price Johnson~~
~~Dec. 20th~~

Tues

Lisa Benhardt 421-8734

~~Pam Commissioners office 679-2353~~

Jeff Russell - PFOA 360-914-0682
water treatment specialist.
offer to help.

granular activated carbon
Navy testing results.

Water Sampling Long Point 678-7628
Dennis Hoff

Matt Jensen - water 360-675-5928

Russ Nelson 671-7877 Bigger Log Home
system

o
P
r
e
s
e
n
t

~~Don~~
~~h~~

~~Kelly / Joe~~

~~meter reads - March~~

~~meter installs~~

~~meter maint.~~

~~Shut off~~

~~low ability / Maint communicate~~

~~leak investigation~~

~~new routes~~

~~Vector - bring Joe's guys~~

~~- how to present charges to Jesse~~

~~- Jesse~~

~~routes redone~~

~~phone reports called in.~~

~~leak investigation~~

~~is wrong information to resident~~

~~Results for Casey need~~

~~Kendra - see maps before meeting.~~

~~Navy~~

~~Feb 16 → Supply meeting at 11:00~~

~~Feb 23~~

~~March~~

interlocal agreement with Chamber 1140. a)

Meeting with Rick Harold

Matt
McKense

County about street overlay grant
(extruded curbing)

Maryann - ideas for job posting

Call about Joe Breen Jr.

Greg Banks - drive letter from 2016
Will you do curbed traffic?

Q

Send Brenja info to Joe

Kelly B. re defense for Tony Martinez

Kelly wants as-builets before COO

7th & Alexander - repo

Kendra - test results for East well

ID WICV1RW60-0117

Second #2 ↑ Why changed?

Kelly B. → water shut off on rot on Friday

born 201-215-6438 →

CH2M Hill

↑ samples

Katie Tippen Virginia

↑

752-671-
6258

first # → WI-CV-1RW49-0117

~~scribbles~~
~~scribbles~~ Guy Banner

in Lynde Eyles - met with Chris

3:45 Friday → car accident

call Keith Hignan - well for DOT
still potable

Whitby Lake Water Assoc.

Andrea update

Drick Bell DWH state perspective

Day Key -

Carl Garrison treatment expert

Civil Engineer. water treatment

Critique/Navy

Restoration Advisory Board

Navy Environmental Restoration Projects

Oct. 2016

few direct
from est
wells.

treatment
new well

MCL
Maximum
level
irreversible

State panel looking at it now
DWH & DOE - may lower level.

Single Source Aquaplan (0)

Doug Kelly Navy meetings
Bum website
Candy website

Jackie

Ben Forbes } any feed back
Jim Shank } on water

Sept 7-8-9 Nordic Week

Sue Payton 360-914-4268

~~150K~~

150K

Cost / going to vacation
rept center exit interview
want to advertise

on water
w/ test for all the stuff required
~~(amp hours)~~ All of our results
stuff nearby - ~~fell within accepted levels.~~
~~Exceeds the EPA standards.~~

~~The - water quality report due?~~
~~thru an newsletter~~

~~Shedder~~

re claimed water } P.D. budget?
generator part
~~email from D&H yet~~

Kelly - do you want 4' level
Kin - water back ups on Madonna

~~The E/Calg - utility news letter?~~

Test America

~~U~~CMR 3 DOD protocol 200/400
= standard 537 (2012)

2016 - I need to 70

modified 537 WS-LC-0025

Why don't Maryanne → method ↑
still 537

modified

Doug Kelly →

ERU

Water Rights ~~189~~

connections left ~~189~~ 50? 189
only DH

of buildant

can't copy because of V.F
arbitrary anyway

~~(Still the same old stuff)~~

limiting factors to water rights

1. production
2. treatment
3. storage

open ponds

Can not produce a well head protection plan
without knowing NAVY solution

Can not produce a capital facility plan.....

Grant → water attorney?

40 Kat Smith Farm

Do we have enough rights

- reduce service area
- ask for more water rights
- focus on conservation

emerging
0-#5
new 10

2) lens
4)

WAIF, Island Transit, Nordic Lodge
billed on wells,

well 4 } both
210 gpm

30K to decommission well 5 / to
protect well 7. (Libby house)

Hydrology study for well 108

120K for ironing water treatment in town
plus up grade to plant plumbing

study actual usage to see our
average use.

474 gpcu = 1 ERU

CCS plan
Emergency Plan
Fire Flow

Seive Aliens

Wholesale Customers - Sugar Creek Springs

Conservation plan

Stormwater plan

Complete

TO DO

list

assignments

Safety tips?

Oct. 11 WA State DOT Spokane

Joe Hansen - Ch2m

Rebecca Mithro -

Kendra - Nady Ch2m

Peter Lampton - Ch2m

150 feet from 1-08
260 feet

add DOT/county well

End of November
DOT decision?

release of data
Mike 253-686 0319

~~Richard~~ Rick(?) Abraham

worked on Basul around Country

Both Town & Navy

tested for 3 even though know there are more

June

~~Mike~~ known to be in Cayville Hotel

Nov - PFOA .0246 .0362 .0305

March

PF ~~HB~~ A ~~SV~~ <.005

- PFBs Not true

- PFHXS .0205 .0292 .0295

PF OS

Nov .0449 ^{needs} .0659 ^{pure} .0600

Should be expected to test for 14

give you copies - did not at meeting

IC did not know of these results

~~WAS~~

~~WAS~~

~~WAS~~

2-4 years PFOA to leave your body
5-7 " PF OS
8-9 " PFHXS

Vista -
George -

Toxic Free Future
(WA Tox (action))

"Chemical Action Plan" PFS - CAP

Patty Murray

0295
0305

0600

Governer > letter for support
of water utilization

Q Rosie James
Sami~~sh~~ish Tribe Office
2918 Commercial Street
Avalon, WA 98221

Thank
you

inject

pump & treat wells b/w
our wells and their contaminated

Oh we stop pumping keystone
how will that affect wells
below.

what QA/QC?
 how run 537 and able to get to 2ppt
 QA officer
 537
 Eurofins in CA using "grandwater" method → Monrovia, CA
 Use modified V for grandwater
 537 for drinking water

Different Labs Vista Analytical
 TestAmerica - drinking

	PQL .035	
DW	LOD 48 ppt	test modified
GW	LOD '4 ppt	lower with confidence
		pump more → higher #
		bedrock
		pumping rate
		aquifer

modified is a version for hazardous waste groundwater

Steve
 Difference b/w 537 & modified?

banded, not straight Chain
 why not modified as drinking water if results are more accurate?

D&H
 Since not regulated why ~~EPA~~ care?

For an characterization purposes could D&H care if we use modified,

including modified version of PFS?
 PFSA
 more accurate

Work stop

Water - new well Navy
Madison
Engle
Sturmanns - change code

Heavy Examiner

Start Business License - new business
change of business
signs
emergency info

2% Procedures

Police Contact.

Housing?

New Employee benefits

email to Jennifer & Verpi limited update
end of July not June.

July 15 -

DOH - Barb toxicologist
report to State

Ed Brewster - Freelance
Attorney for private water association.

ELU =
474 gpd
we used
barge and

220 ELUs
to get to feel
water right
potable

Jessie Larson WCLT
Ill

who approves public water
supply systems
in our state

1100

support cement & new well?
location

made their own plans w/ Mary

Mary - Phone for Dumps & Mary

Hilary West
Nathan Howard

Planner - subdividing in an ^{water} secure area

How did
we get
1385 ELUs?
1989
DOH
DOH
best
value

~~Hospitzk Kaddish~~

Mike Milenbauer

Cape water

Admiral's Cove water

filter on well head

Kendra? guy?

Nina 518-572-3585

7/16	99.24
2/16	102.50
11/14	105.62
1/17	126.19
3/17	122.05
5/31	114.83

\$20 Stormwater
not \$50

Dec. 5th DOE - new person
inspection of WWTP

Dec. 6th DHH - Virginia Representative
Denick

10 tanks Cayceville
10 " OH

* Restroom Email - all on same
page? Police, PW, Utilities

* Email to Beth T. about paint
label for Rec Hall

* Call Alena about Dinos &
Council Party.

* Nancy - New nail brushes, nail place,
town date on sign, lunch.

Captain -

6

WWK public meeting

among filters on private lines

among town filters

filter performance tests on
Capeville water -

how/when will info go
public.

Dec. 11-13

Housing info

CAP meeting

Dec 12 go public

CAP - put type

Chemical Action Plan

PFS

$(3, 00)$

DoH

DOE

asked this group to form small
All provisional

Chemicals

* want PFHxS - long chains addol

Set # for Regulation - Soil
of - Water

-water

- f_2 is 1st order

~~Linky water~~

①

King County wants it regulated
mussel testing in November

CAP wants funding for state wide testing to be broader

2015 now required to test for PFCA^s & PFOS^s if pop
UCMR 3 - 5 chemicals every 5 yrs.

Want testing on fish & effluent
to start soon.

MoJessa - PFBS per fluoro butane sulfonyl acid
PFSA per fluoro octane " "
PFOS per fluoro octane sulfate

report only these three →

ask over phone for ~~PFOS~~ the other 3

~~Spring Clean up details~~

~~Toxicology - watering gardens~~

~~Kendra - Don Test results~~

~~- how to read results?~~

~~- Does Mary "combine" PFOA & PFOS?~~
~~- on wells~~

~~Cancel UBS~~

Compsite

Feb. 15, 16 next Public Water
CHS OHHS meetings
4-7

3.

Kaetzal

Rhonda Kaetzal

206-553-0530

cell 206-471-2443

↓
ATSDR

Agency for Toxic Substances & Disease
Registry

Anthony
Director of
DOH
Head of
unit
Health
Sciences
Lancet

Toxicology for DOH

1. Barbara Hummer 360-236-3368

2. Elmer Diaz 360-236-3192

EPA-Elizabeth Allen 206-553-1807

360
236
3325

(PFH - PA) (PFH XS)
PFNA

~~01 (0000)~~

COLPFC01 - PFH - PA non detect

HXS - .0465

PFNA - non detect

02 HPA non detect

HXS - .0367

PFNA - ND

03 -

ND

ND

ND

6 carbon chain

ATmpel
(AFFF)

04

ND

05 ND

(C06/07) 06 HPA ND
HXS ND
ND

08 ND

09 ND

10 ND

PFNA - ND

unbound
PFBS - PFOS - PFOA

micrograms per liter

108 → 01 PFBS ND
OS ND
OA .000-0622 ppb 62 PPT

108
2nd sample → 02 BS - ND
OS - ND
OA - .0558 ppb 59 PPT

03 NA transfer blank at well 108
04 ND well 190
05 ND well 106

8 carbon chain

06/07 BS ND
OS ND
OA .0270

06-ND

at Distribution → 09 ND ND
OA .0246

25 PPT

10 - ND well 4-87

11 - ND Field trip blank (noise blank)

Steve

Nov. 28th start - Dec. 14th ~~15~~
Navy will test at OLF

Navy Environmental Restoration - Kendra L
WORKS in Silverdale.

Stella Murphy at
Navy Region NW

"acute contaminant"

are also called do harm

EPA Current Health Advisory
70 PPT exposure

- person drinks 2 gts. of
water per day

- for 30-70 years

- expected to no significant
health impact.

DOH
Laurie
Jacks
Environmental
Public
Health
↓

"What is
the level
that DOH
would advise
Do not drink?"

~~Mary Magee~~ Nov 12
~~SS Bird~~ 682-4166

~~Don Key HDR~~
~~Queen~~ ~~Cheryl Williams & Assoc.~~
~~206-826-4706~~

~~Lynda Eccles~~ 678-3434
~~Wants meeting~~ 969-3139
~~buying chairs for Festival~~
~~Festival Association wants for chairs.~~
~~Bird cage home 4 months~~

~~Steve Hulsman - DCH~~
~~253-395-6727~~

4-87 22 gpm

1-88 > 45 gpm

1-90

Ice
Syringe
bottles

duplicate
of 1-08 →

- ① Matrix x spike / Matrix Spike Duplicate (at entry to distribution)
- ⑤ Well heads 4-87, 1-06, 1-08, 1-90
- ① entry to distribution (Fort Casey)
- ① trip blank
- ② transfer blanks (1-08)

EPA

Doug Kelly 678-7885

2 wells

1 tested positive $\frac{1}{4}$ of advisory level

1 tested negative

emerging contaminants

US EPA has not set standard level
health advisory level 70 parts per trillion

Well at Dome

Restoration Advisory Board
Navy & Marine
PFOS & PFOA

Navy NW Region what wells are used
where to test.

Navy Contacts

Mike Weidig out of town

Leslie Ylanger 360-396-6387

Shelia Murray 360-4981

108

130 gpm

Ar.

Materials for outdoor exposure.

+ estimating soil exposure for Feb 12/23

Nally 9:00 ~~10:00~~ am 10th at Turn Hall *
 WA State DOT → ~~Defender~~ cell 509-999-6843
 → Lauren Jenkins 360-236-3325

Nally using TestAmerica
 in Sacramento
 ALS - Kelso
 20 business days est.

Chris

trip blank - worried about
 Turnoff airport driving before if Resonance
 being to fuel

will need to be able to manually
 turn each wheel and run for
 prep for tests? wheels on?

20 to turn 2
 30 min while going in lane

Melissa @
 Anatek Labs
 Melissa

Anatek 509-838-3999 3 weeks

300 per test x 4 = 1200 "Blanks" are included in cost

PFOA

0.005 PPB MDL
 0.02 PPB PQL

PFO5

0.01 PPB
 0.04 PPB

Field Duplicate Samples → at OLF well head

PFOA
method
20 parts
per trillion

Anatek → current method detection level/limit

"quotes"
"humanad"
"or results"
what is the
current method detection limit
PFOA & PFOA
PFA & PF

Analysis done

Via method # 537 → test for 6 PFAS compounds including PFOA & PF

phthalate
40 parts
per trillion

full QA/QC

4 environmental samples

"trip" →

field blank at well

2-well head
2-at distribution point
entry point to distribution

PFOA
method
20 parts
per trillion

transfer blank - 2 (field)

use of cassettes to may
matrix spike
duplicate
MS/MSD

Labs QA/QC - lab control samples

Samples from wellhead

Matrix spike duplicate compare on water
matrix spike and 1 to their spiked samples

retrograde blanks
lab - blanks

20 parts
per trillion
each
sum of
the 2
compounds
70 ppt total

muscle
store is
available
11/10

only using
test
America
in CA

Labs → Quality Assurance / Audit Control

QAQC

pure - spiked - variable compounds
to check their equipment

509-838-3999

Anatek Labs Spokane project manager
accredited by EPA

ALS Lab Kelso 360-577-7222

sidewalk → just bare bottom McCard Chris Leaf
or "get quotes"

Unregulated Contaminants List
ongoing testing of drinking water

PFC → 12 pulled to test
Hits in Esquimaux

Order kits - chain of custody
ice chest
surgeon
paperwork } Fed Ex

PFOA
PFOA

~~gave PRs to
independent
3rd party and
collection
QAQC on site~~

steve.hulsman@doh.wa.gov

DOH
Water
quality

Steve Hulsman

Bolton

253-395-6777

collected, processing, analysis

2 active wells

Keystone Hill 466 Keystone Hill Fed.
188

100?
100?

gully 434 W. Wauwatosa Rd

Reservoir?

well plus
distribution

2 tests
at each well

raw water
plus

at
distribution
point

mitigation?

how long to wait for

80's Navy landfill

90's runways

Kendra Lightman

Project Mgr.

Navy?

Lifetime Health Advisory Level

20 parts per trillion

2 liters water per day

for 70 years. would

not expect any

health issues

WCIA

Debbie Sellers

"pollution exclusion"

ATSDR

Agency Toxic Substances & Disease Registry

Gene Buckner

Judy Lynn 929-4740

~~Florida~~ 55

DOE

Beth Kernan 206-676-7068

Jeff Moore → Navy test 257-
per fluoroxane sulfonate 2037

Capt.

pre-fluorinated compounds
fluorinated compounds

Sevater Murray requested
test with notifications

press release ~~DOH~~

What would
your regulatory
response be

testing drinking water at OLF (350
and
OLF)

PSC from fire by by par

test in Dec.

Early Nov. 1 mile and

Nov. 21 Off

Nov. 22 Capeville
month to get result

CHS Dec. 9th 4:00

Lifetime
"leath adverb"
Not regulated
by EPA
70 parts per trillion

Spec of Navy

prostate
kidney
testicular
Peterson AFB
Colorado
Oct. 27

Willabene
Pann.
Wille

PSW 23
Camp Casey
4 hrs.

~~New Business - Vacancy Rate~~

~~Sales tax~~

~~Logging tax~~

Business range

~~Cost of doing business in Capeville~~

~~Dave - Utility Rate decrease~~
~~Sign Code~~

29 pounds
5 SFH

2018

13 FTE

2 general

Silent tax

↑ 6% w/o

↑ 5% w/ contribution

2% w/o
↑ 5% ABMS

↑ 25%

↑ 25%

~~Grants~~
~~Community Green~~

~~Kitchenware, LED lights~~

~~renewables paint this winter~~

spend on garden

Summer of
water leaks

~~GREAT START~~

~~MEV~~

~~on down
Dotters~~

~~celebrations~~

~~Shen Farm project~~
~~Tom & Suzanne~~

~~Water - Test results~~

~~Possible actions~~

TO DO -
Code updates
HPC updates
Camp plan

Piffel

Water
47 to 38

Green
198 to 100

Storm
26 to 12

CLAA-1343-04 302
42% 35%

Stores
Boss's

Bob Green
Mike Means
Gwen Shivers

Barb Novisey -
toxicologist ~~Barb Novisey~~

State Board of Health - approves rules
State Dept of Health - comes up with rules
SAL State Advisory Level

State Maximum Contaminant level
Never been done in State before
require testing, requires compliance mitigation

PFBS - 4
carbons

PFHxA -
6 carbons
absorbed
through
skin.

PFHxS - 6 carbon

PFNA - 9 carbon

PFDA - 10 carbon

add to
PFOS & 8 carbons
PFOA - 8 carbons

Dept. of Health recommendation

	108	Distribution
70-200 PFOA	64.7	36.8
PFHxS	65.2	36.8
	129.9	73.6

70-200 - bottled water within a month
200-700 bottle water within 1 week

Grant
Weed
1/23/18

Back on 5th
week of 12th Feb
13th →

Feb
12, 15
10-14

1. Bldg Construction & Design } 2
2. ongoing M&D } agreements

Protection
for

letter of understanding with key points

"emergency"

"never rely on
basis understanding of agent"

10 or 12
points

letter
intended to confirm the understanding
of law firm & Navy.

reimburse
actual cost
SEPA/NEPA
permits

Here are our key understanding

confirm this aspects.

authorizing me to send letter &
to negotiate

authorizing Navy to facilitate & see agents
through
need confirmation in writing that
authorizing this and gives me
authority to negotiate.

218 → 366 processing fee

Meeting 12/15/17
Michael

Matt - CH2M Drinking Water
Rebecca - CH2M project manager
Chris Jenner - Kendra's Supervisor

Key take
aways
from
turn

Real Estate

Right of way (for construction)

Easements from IC

Easement with private residents

Title

Applicable

Survey

Easement

* Would we want to run a sewer
line down a private road if
it has the potential to hook up
several more homes in future

fire ~~flow~~ flow concerns for new lines

Navy will do all permitting
SEPA, Tribes, Section 106
building permits, shoreline
Archaeology

Big Cedar Road - looks private
probably already have easements

Will Navy decommission private wells

Letter Jan
Navy with

CO - Press release Navy & Town Jan
after letter goes to lawmakers

Kendra - Chris - Navy
Matt, Rebecca - Jacobs
Dennis ~~4884~~ & Derrick DHH

GAC
Tom
RO

Rapid small scale piloting.
or small onsite

TDC

water rights \rightarrow 970

Ft. Casey wells now \rightarrow 200 gals

Ft. Casey wells future \rightarrow 400 gals

$2 \times 8 = 250$ gals

$2 \times 10 = 500$ gals

$12 = 500$ gals

$12 \times 40 = 1000$ gals.

1 4 3

.0094

.0199

.0053

.0388

.0368

.1102

46
16
22

Test for
44 companies
total of all
GeoTech
Surveys

1390

1510

1630

Mark & Kristi Korzan

Korzy13@hotmail.com

↳ Kris Fellrath

a.k.fellrath@gmail.com

↳ Cliff Fellrath

velroth@gmail.com

Gary + Jane Johnson

janelizj@gmail.com

David JACOBS

↳ for Jan & Keith Howland blackfoothunter@hotmail.com

Sandy & Steve Swanson swnsnisle@aol.com

Hidinger 1230

Millenbach

Crofford - not there

1900 - 2020



4/31/18

3 of 4 above

PFOA 253, 373, 297, non detect

was 571 now 1010 East of runway
B/W runway & Hwy 20

was 166 now 9 was the closest.
to Keystone

was 1190 now 220

monitoring wells are modified 537
~~non detect~~

Well 108 - 3/

① Chris Fellerath Cliff

② Gary & Jane Johnson - highest #

③ Sandy & Steve Swanson longest capture

④ Christi & Mark Swanson - daughter on feeding tube for 10 years

⑤ Jim ^{Higginson} - neevest well 2 years old

⑥ Mike Millenbach - 1950's

⑦ David & Melonie

⑧ ? ⑨ ? ⑩ ?

Lauren Jenks - WA state DOH

State Board of Health is considering adding other compounds to the 20 ppt. Will take 1 1/2 to 2 years.

roots → leaves → fruit

2000 to 5,000 ppt in water used in garden for 10 years. — what were levels?
continue to garden

Water bills - tort claim - to different
Department of DOD.

non-potable water from wells,

* What are average water bills
for out of town customers?
Send info to homeowners

2/16/18 - Navy meeting, phone
Matt - on phone
Kendra -
Kelley, Joe, Kim, Macey

Hydrolis - looking at fire flow for
line extension

Draft report for both projects out in
mid-March.

utilities
easement on North side of road
widths B/W 15 & 30 feet

Does TOC have franchise w/ WSDOT?
How to get one?

✓ → Building outside of building
envelope

✓ → Get Kendra copy of easement
agreement, w/ Navy.

Coleman Model 8
22x10x17

~~May 16
April 16
March 16~~

3rd Friday at 11:00

Grant 4/2/18

Diss code require a warranty
for instruction for 1-2 years.

→ BIS warranty language for water lines

Navy agrees > contract w/ Town to operate?

Tech & equipment will meet or exceed
current EPA & DDTF WQ City Standard

ad ~~time~~ ~~the~~ ~~study~~ be designed
to address any future
requirements

Jennifer Maldison - design mgr.
Matt - engineer
Rebecca - project mgr.

8" for service line & fire flow

w/ avert pumps 60-70 psi; ? ~~pressure~~
need pressure reducing valve.

avert pumps 30 hp.

Navy asking who is responsible
need to be upsized to 50-60
for fire flow.

→ add a third pump for redundancy
→ add generator for emergency power.

modeled design for 40 ~~ft~~ total
new hook-ups in Navy area

Grant
→ County vs. Town code for fire flow?
Why does DCH make decisions
about fire flow and not just
drinking water?
Look at Code AND water Mgmt. Plan.

→ Send Kendra Biddis rules

Then maintain road?

" " live on Big Cedar)?

⇒ Who is IC engineer Keith was
referring to?

⇒ give Navy Specs for road,
width
ditch

turn road for us for fire truck?

⇒ fastest language for ROW

DOT needs 2 months for purchase

Service Area – IC wants our service area to be large, wants less private wells in aquifer. Give us potential revenue. However, we need to be able to provide service in a reasonable amount of time (120 days) for a reasonable cost.

Process – IC is supposed to send new customers over to us to determine if water is available. Does not always happen. We have lost some important opportunities.

Two different problems – treatment capability and contamination, but they effect each other. In town wells kick on in summer to fill up reservoir. Turning on more and more often. No treatment. Want to get away from using these wells. Want to keep them for fire protection only.

Ft. Casey wells –

108 – can pump 250 gpm. We are running it at 130-150 gpm now.

1-06 and 1090 – 100 gpm now

487 and 287 – 70 gpm combined. 487 on. 287 off.

420 gpm potential now.

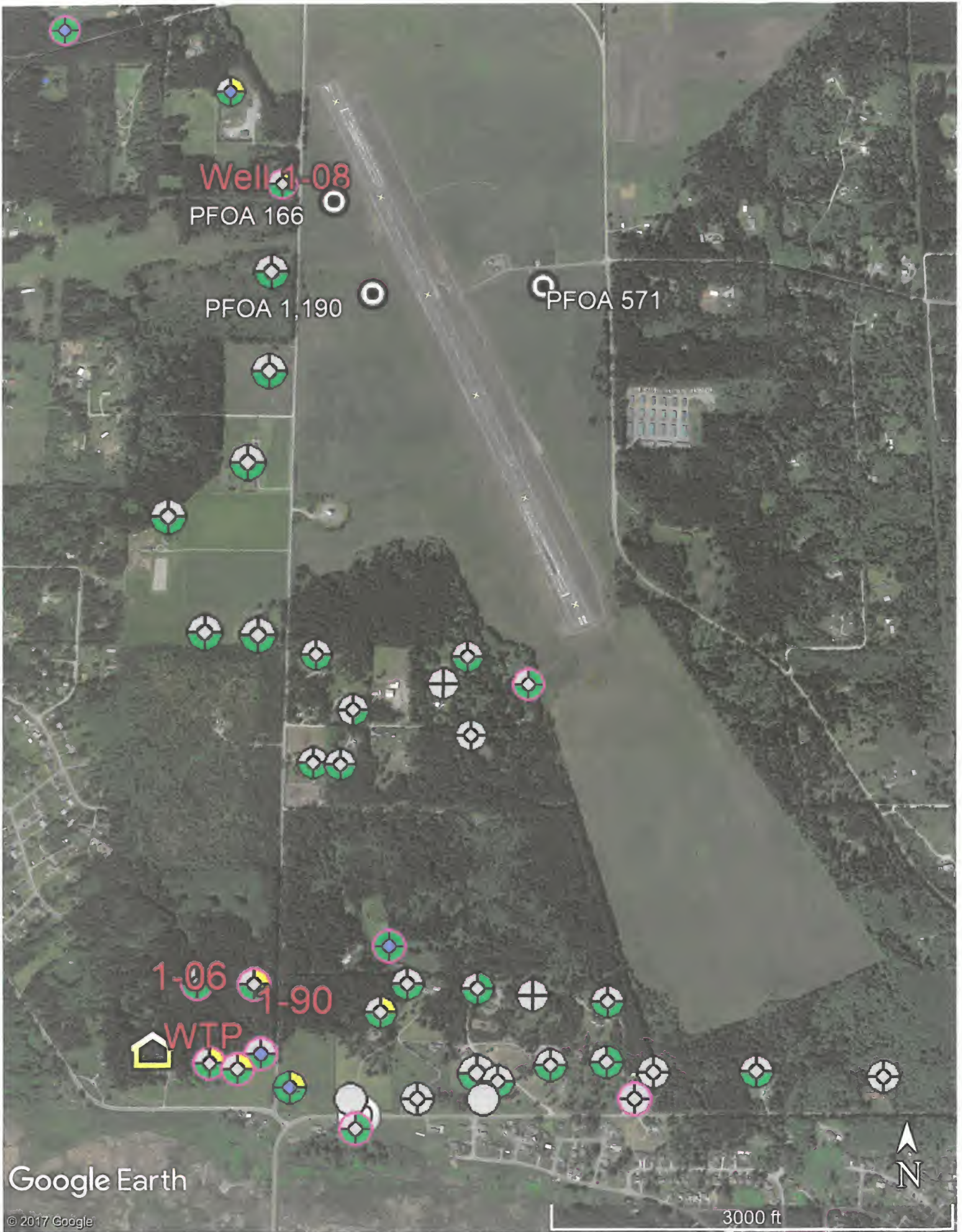
Ft Casey Water Plant can treat 210 gpm now. We are running it 23.7 hours per day.

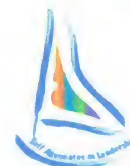
We need to and we can double the treatment capacity at our plant.

But we probably should not turn up our workhorse, well 1-08, any higher. We are pulling the contamination plume toward our well.

We don't want to consider 487 or 287 as back up because we could pull the plume across the street to us.

We need a new well far enough away not to pull plume and possibly subsidize with 1-08, 1-06 and 1-90





July 11, 2017

Secretary John Wiesman
Washington State Department of Health
PO Box 47890
Olympia, WA 98504-7890

Dear Secretary Wiesman:

A serious public health threat has emerged in Washington that needs your immediate attention. As you know, perfluorinated chemicals (PFAS), which are linked to multiple health effects including cancer, have been detected in the drinking water of several Washington communities, including Whidbey Island, Issaquah, and Airway Heights. We thank the Department of Health (DOH) for taking actions to test and help address this contamination. However, we are concerned that Washington state does not have a drinking water standard for these chemicals and that state residents are not adequately protected.

PFAS levels in residential wells near the naval air station on Whidbey Island were found at more than triple US EPA guidelines, most likely due to the use of firefighting foams. Issaquah also faced PFAS contamination from use of firefighting foam, requiring the installation of a filtration device for its municipal drinking water supply. And in May, a number of wells in Airway Heights community near the Fairchild Air Force Base in Spokane were found to be contaminated.

Without drinking water standards for these toxic chemicals, municipalities are not required to test residential water systems for PFAS chemicals or report test results to DOH. Thus there is no oversight and enforcement for chemicals that we know are harmful to our health. Residents should not be drinking water contaminated with these chemicals. Drinking water standards will ensure that they are not.

State action is needed because there is no federal regulatory drinking water standard. The EPA only has a non-binding health guideline of 70 parts per trillion (ppt) in drinking water for two forms of the chemical (for either PFOS or PFOA or both combined).

There is scientific evidence that the EPA guideline is not protective enough. Some states, including Minnesota, Vermont and New Jersey have adopted guidelines that are more protective for PFOA or PFOS, between 14 and 35 ppt.

It is also becoming clear that additional chemicals need to be included. Four leading scientists recently published a paper in Environmental Science & Technology titled “A Never Ending Story of Per- and Polyfluoroalkyl Substances (PFASs)?” making the case that these compounds need to be considered as a broader class.¹ In their article, they state the following:

- “More than 3000 per- and polyfluoroalkyl substances (PFASs) are, or have been, on the global market, yet most research and regulation continues to focus on a limited selection of rather well-known long-chain PFASs”
- “Among the thousands of PFASs still being produced and used, there are many overlooked ones that are structurally similar to PFOS, PFOA, or their precursors, and are produced in high volumes”
- “Even though some PFASs may partially degrade in the environment and biota, they will all ultimately transform into highly stable end products Thus, when assessing and managing PFASs, all their precursors (which can be challenging to identify) need to be considered as relevant sources and managed as well.”
- “The very high persistence of PFASs leads to poorly reversible exposure to these substances in the global environment and some local/regional environments including groundwater. Past and ongoing production and use will lead to the accumulation of PFASs in the global environment”

Exposure to these compounds has been linked to a number of health concerns:

- **Cancer:** PFASs induce several types of tumors in laboratory animals, and the International Agency for Research on Cancer has designated PFOA as a possible carcinogen based on epidemiological evidence linking exposure to kidney and testicular cancer.²⁻⁴
- **Hormone disruption:** laboratory animals exposed to certain PFASs show abnormal levels of hormones, including thyroid hormones and testosterone. Children exposed to greater levels show reduction in hormone levels and delayed puberty.⁵
- **Liver toxicity:** PFASs are associated with liver enlargement in laboratory animals.
- **Harm to the immune system:** recent research has identified the immune system as sensitive to PFASs in both laboratory and epidemiological studies. A 2012 study of 587 children found those with greater exposure to PFASs had significantly poorer responses to vaccines.⁶
- **Reduced birth weight:** a number of large epidemiological studies have related higher maternal exposure to PFASs to lower birth weight. These are consistent with laboratory findings of developmental toxicity.⁷

We understand that there are numerous sources of these chemicals in the environment, from firefighting foam to food packaging. This is why we are very supportive of the state moving forward swiftly with developing and implementing a chemical action plan.

Given the growing scientific evidence and concern in Washington with respect to drinking water contamination, we request that the DOH take the needed steps to establish drinking water standards for PFAS chemicals. We would also request a meeting to discuss these issues further

with you. Please contact Laurie Valeriano, Executive Director, Toxic-Free Future to arrange a meeting. Her contact information is 206-200-2824 or lvaleriano@toxicfreefuture.org.

Thank you very much for your attention to this critical matter.

Sincerely,

Laurie Valeriano
Executive Director
Toxic-Free Future

Heather Trimm
Executive Director
Zero Waste WA

Karen Bowman, MN, RN, COHN-S
Environmental Health Specialist
Washington State Nurses Association

Bruce Speight
Executive Director
WashPIRG

Diana Stadden
Policy & Advocacy Coordinator
Arc of Washington State

Noah Seidel
Self-Advocacy Coordinator
Self Advocates in Leadership

LeeAnne Beres
Executive Director
Earth Ministry

Felipe Rodriguez-Flores
Director of Civic Engagement and Advocacy
Progreso: Latino Progress

Citizens for Ebay's Reserve (COER)

Anne Harvey
Whidbey Water Keepers

References

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6. Grandjean, P.; Andersen, E. W.; Budtz-Jørgensen, E.; Nielsen, F.; Mølbak, K.; Weihe, P.; Heilmann, C., Serum Vaccine Antibody Concentrations in Children Exposed to Perfluorinated Compounds. *JAMA* **2015**, *307*, (4), 391-397.
7. Bach, C. C.; Bech, B. H.; Brix, N.; Nohr, E. A.; Bonde, J. P. E.; Henriksen, T. B., Perfluoroalkyl and polyfluoroalkyl substances and human fetal growth: A systematic review. **2015**.

Joe Grogan

From: Richard Abraham <richardcabraham@gmail.com>
Sent: Wednesday, October 11, 2017 12:52 PM
To: Geryl Forbes; Eric Anderson; Grethe Cammermeyer; Ron Wallin; Sharon Lerner; Hal Bernton; Kurt Blankenship; wghdistrict4@whidbeyhealth.org
Cc: Jake Kempton
Subject: Re: Update to public records request 01579
Attachments: PFAS Testing.pdf; ATT00001.htm

10-11-2017

TO: Whidbey Health CEO Geryl Forbes
Whidbey Health Board of Commissioners

RE: Coupeville and WGH's PFAS Contaminated Water

From: Richard Abraham.

This open letter responds your General Counsel, Jake Kempton's 10-7-17 communication regarding the hospital's PFAS contaminated water. I am also asking that the hospital re-test of its water for PFAS contaminants and correct its related public statements.

The hospital's "pre-filter" and "post-filter" samples do not prove that these chemicals have been removed from the hospital's water. For the hospital to suggest that its coffee and ice machine filters remove these chemicals is misleading. Mr. Kempton's letter state's, "for reasons unknown" a different laboratory was used for the "post-filter" water tests than was used for the "pre-filter" tests. He ignores the fact that less sensitive detection limits were used for the "post-filter" analysis. For example, the PFHxS found at 27.8 ppt in the "pre-filter" sample would not have been identified in the analysis of the "post filter" sample which had a method reporting limit of 30 ppt. This kind of skewed testing creates the false impression that contaminants are being removed from the water when that may not be the case.

The chronology of events provided by Mr. Kempton conveniently ignores CEO Geryl Forbes' April 11, 2017 communications with Coupeville Mayor Molly Hughes. The day after the Board of Commissioners were told of the need for an appropriate filter system, CEO Forbes and the Mayor Hughes exchanged wording for the hospital's public response. Their suggested wording proclaimed the safety of the hospital's water and rejected the need for PFAS filtration. This communication took place before the hospital conducted its "pre-filter" and "post-filter" tests".

In the April 11 email to CEO Forbes, Mayor Hughes states, "I would leave out the part about your filter. Unless you know for a fact that you use activated charcoal and your filter system is large enough to treat the hospital's water and the media is changed out often enough, I think it's risky to imply you are treating your water for these compounds. Someone will check."

Instead of installing what the Mayor acknowledged would be an appropriate filter system, the hospital apparently had tested its water in a way to indicate PFAS filtration was not necessary. It is no surprise that CEO Forbes announced that the hospitals water would not be tested again.

The hospitals claim that it is not, "attempting to hide anything from [me] or the general public" is simply not believable. If you don't want to hide anything, then retest your water and make the results public. If you do retest, use the method of analysis that the Town used when it began testing, in secret, for the six PFASs of concern. I say in secret because the results of this testing were not, until recently, made public. I have enclosed a communication identifying the kind of testing that needs to be done.

The Town's unpublicized water testing of December 2016 and March and June of 2017 revealed PFOA, PFHpA, PFBS, and PFHxS to be in the same water used by the hospital. The hospital has known, or should have known that these same chemicals were in the water going to unknowing patients, employees and visitors. Given that nothing has been done by the Navy, the Town of Coupeville, or the hospital to remove these contaminants, it is reasonable to assume they are still in the water that your General Counsel acknowledges, "is consumed by our patients."

Do a minimum amount of homework and you'll understand the risks of exposure to these chemicals. The fact that these chemicals are unregulated at the Washington state or federal level doesn't not mean they are safe to drink. The lack of standards should not be used as an excuse to accept them being in our water.

Please inform me when the rest of the documents I requested pursuant to Washington's Public Records Act are available.

Sincerely,

Rick Abraham

On Oct 7, 2017, at 1:16 PM, Jake Kempton <kemptj@whidbeyhealth.org> wrote:

Mr. Abraham,

The District has recently identified additional documents that appear to fall within the scope of your most recent public records request, but that were not included in the response that was sent to you on 9/8/17. The additional documents are email communications between two third parties and which were not under our possession or control at the time your request was fulfilled (see below for further explanation). Attached are the following items that were not previously included:

- Email correspondence between Andersen Construction and Diamond regarding the water sample requests made by the District.
- A copy of the relevant section of the April 18th construction committee meeting minutes held between the District and Andersen Construction, reflecting the original request for water sampling made by the District.
- a screen shot of a text message sent by George Senerth to Andersen Construction detailing the specifications for the requested water sampling.

The remaining records that are currently unavailable are the email communications between Diamond B and the laboratory regarding the specific request for water sampling. These communications are currently not within our control; however we anticipate that the rest of the records will be available for you early next week.

I would like to also attempt to address some of your concerns mentioned in your open letter to CEO Geri Forbes you included the following statement: "Missing from WH's response to my public records requests, is the communication to the laboratory identifying the requirements for the pre and post filter testing the hospital requested. Provide the missing document and those questions might be answered."

First and foremost, please understand that the District is not attempting to hide anything from you or the general public. That the documents were omitted from the District's most recent response was purely an oversight, due largely to the fact that the documents were not in the possession or control of the District at the time your request was fulfilled. I've done my best to outline a summary and accurate timeline of events below, which will, I hope, provide you with much greater clarity to the situation.

To give a brief summary of the water testing process, immediately following your presentation to the board of commissioners in April the District requested Andersen Construction to perform a pre-filtration and post-filtration sample of the water. As mentioned in a previous response, the hospital does not maintain a system-wide filtration system. However, it does maintain equipment-specific filters, as recommended by the manufacturer. While these equipment-specific filters were never intended to serve as a hospital-wide system, they do provide filtering for water that is consumed by our patients (ex. all the ice machines, coffee machines, etc... contain individual filters). The post-filter test was performed on one of these pieces of equipment.

Upon receiving our request, Andersen assigned it to one of its subcontractors, Diamond B, to perform the testing. However, Diamond B misunderstood the initial request, which was to perform a sample of water pre-filtration and post-filtration test, and only sent a pre-filtration sample to Avocet Laboratories for testing. When Andersen Construction discovered that Diamond B had failed to conduct a post-filtration test, it requested Diamond B to repeat the test at a post-filtration point. For reasons unknown to WhidbeyHealth, Diamond B used a different laboratory to perform the post-filtration test.

Timeline of Events:

- On 4/10/17 you appeared before the District's board of commissioners and provided them with information regarding the recent testing that had been performed by the navy, and voiced your concern regarding the safety of the District's water.
- On 4/13/17, in a construction meeting with Andersen (the GC overseeing the construction of the new wing), the District requested Andersen to perform water samples (see pg. 6 of attached OAC Minutes)
- On 6/12/17, a representative from Andersen sent an email request to George Senerth asking for our requirements for the water testing (see attachment).
- On 6/12/17 George Senerth responded to the Andersen representative's request by sending him a picture text message of the report that you provided to the board, highlighting the specific chemicals that had been identified in several wells in Coupeville (see picture attachment).
- On 6/15/17 Andersen Construction sent a request for testing of both pre a post filtering, to include testing for PFOA, PFHpA, PFBS, and PFHXS (see email attachment).
- On 6/30/17 Diamond B sent the pre-filtration results to Andersen Construction. (see email attachment)
- On 7/5/17 Andersen Construction notified Diamond B that a post-filtration test would also be needed, as originally specified. In a subsequent communication to Diamond B, Andersen clarified that the District had not changed its testing criteria for post-filter testing (see email attachment July 5, sent at 11:05 AM "Yeah, same testing pre and post filtering").
- On 7/24/17 you emailed me requesting additional information in regards to the hospital's response to your presentation on 4/10.
- On 7/24/17 George Senerth had a follow-up conversation with the representative from Andersen regarding the water sampling (see email sent in previous response).
- On 7/25/17 Andersen Construction sent a follow-up email to Diamond B requesting the status of the results (see attached email).
- On 7/26/17 George Senerth sent a follow-up email to Andersen Construction requesting a status update (see attached email).
- On 8/3/17 the Andersen rep responded by stating that the results were expected back on the 9th or 10th (see email sent in previous response).
- On 8/15/17 the District received the results from the post-filter testing.

- On 8/17/17 the District received your most recent public records request and provided you with a copy of the test results on the same day.

Again, the District anticipates that the rest of the documents will be available next week. If, after reading this email, you believe these emails are no longer pertinent to your inquiry, please let me know. I hope that this communication bring some clarity to the situation.

Please feel free to call me if you would like to discuss or have any questions.

Jake

The information contained in this transmission, including any attachments, is for the sole use of the intended recipient(s) and may contain privileged and confidential information, including patient information protected by federal and state privacy laws. If you are not the intended recipient, please contact the sender by reply email and destroy all copies of the original message. If you have received this message in error and you believe that it contains patient information, please contact the WhidbeyHealth Privacy Officer immediately at 360-678-7656. Please also note that this email may be subject to disclosure under the Washington State Public Records Act, 42.56 RCW.

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: David Kline
Address: 4558 91st Avenue SE
Mercer Island, WA 98040

Batch #: 170103006
Project Name: EPA 537

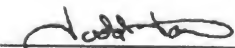
Analytical Results Report

Sample Number	170103006-001	Sampling Date	12/28/2016	Date/Time Received	1/3/2017	9:35 AM		
Client Sample ID	1208 NE BURNHAM PL	Sampling Time	11:00 AM	Extraction Date	1/5/2017			
Matrix	Drinking Water							
Comments								
Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.025	0.09	1/9/2017	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	< 0.005	ug/L	0.005	0.01	1/9/2017	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	0.0268	ug/L	0.01	0.03	1/9/2017	TGT	EPA 537	J
Perfluorononanoic aid - PFNA	ND	ug/L	0.005	0.02	1/9/2017	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	0.04	1/9/2017	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0288	ug/L	0.005	0.02	1/9/2017	TGT	EPA 537	

Surrogate Data

Sample Number	170103006-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	83.4	70-130
13C-PFHxA	EPA 537	77.1	70-130

Authorized Signature



Todd Taruscio, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.



ANATEK LABS, INC - Multi-state Certified, NEL
1282 Alturas Drive, Moscow ID 83843 (208)883-2839 FAX 882-4
504 E Sprague Ste D, Spokane WA 99202 (509)838-3999 FAX 838
170103 006 **ZZZZ** Last Due 1/13/2017
1st SAMP 12/28/201 1st RCVD 1/3/2017
EPA 537

UCMR Chain of Custody

WATER SYSTEM
SEND REPORT TO
ADDRESS
CITY STATE ZIP

100 PENCE - 1208 NE BURNHAM PL
DAVID KLINE
4558 92ST AVE SE
Merrett 15CANDWA 98070

Water System #
Phone Number
Fax Number
County

206-427-8960
DAVID KLINE@OUTLOOK.COM
15CAND

Sample Type
EP
MR

Source Type
SW
GW
GU

SAMPLING EVENT
(circle one)
SE 1 - SE 2 - SE 3 - SE 4

FACILITY NAME
Co 108 NE Burnham Pl
FACILITY ID
Date & Time Collected
12/28/16 11:00
Sampler Name
Sampler Signature

Receiving Check List
☒ Received Intact
☒ Labels & Chains Agree
☒ No Headspace
☒ Temp: 3.5 F - 2
☒ No/ice-Packs Present
☒ Custody Seals Present
☒ Preservatives: TST

LIST 1
☐ EPA 200.8
☐ EPA 218.7
☐ EPA 300.1 - Note Disinfectant type to the right >
☐ EPA 522
☐ EPA 524.3
☒ EPA 537
☐ FIELD BLANK
☒ TRIP BLANK
☒ FIELD BLANK

LIST 2
☐ EPA 539
☐ FIELD BLANK

Disinfection Type: (check/circle one)
Gaseous chlorine
Offsite generated hypochlorite
Onsite generated hypochlorite
Chloramine (formed from gaseous chlorine)
Chloramine (formed from offsite hypochlorite)
Chloramine (formed from onsite hypochlorite)
Ultraviolet Light
Ozone
All other types of Disinfectant
Chlorine Dioxide - Sample Sparged? Y / N
No Disinfectant

Customer Signature
Shipping/Delivery Date
12/30/16

Received By
Date Received
1/3/17 0935

Payment due with samples, unless credit has been established



COMMANDER, NAVY REGION NORTHWEST

1100 Hunley Road, Silverdale, WA 98315-1100
Phone: (360) 396-1630 Fax: (360) 396-7217

FOR IMMEDIATE RELEASE
Release 16-295

October 27, 2016

Navy to Begin Drinking Water Testing

SILVERDALE, Wash. – The Navy will begin testing drinking water wells next month in and around Naval Air Station (NAS) Whidbey Island Ault Field and the Outlying Landing Field (OLF) in Coupeville as part of the its commitment to ensuring drinking water supplies are safe. These tests will be at no cost to the well owners or users. This is part of Navy's ongoing testing of drinking water that is currently taking place at and near Navy installations across the Nation.

Navy officials met today with staff members from Washington State's congressional offices on Capitol Hill to discuss a variety of subjects, where officials shared the Navy's current plan to test drinking water supplies around NAS Whidbey Island for perfluoroalkyl substances, aka PFAS. Tomorrow Navy leadership will meet with local officials in the northwest region.

PFAS are man-made chemicals persistent in the environment that are not absorbed well in soil and could migrate to groundwater. PFAS have been used for many years to make products that resist heat, stains, grease and water, and have been used in a variety of products and substances, such as non-stick pans; water resistant textiles and sprays with water resistant properties.

In May 2016, the U.S. Environmental Protection Agency issued lifetime health advisory levels for two PFAS, specifically perfluorooctane sulfonate, PFOS and perfluorooctanoic acid, PFOA, at 70 parts per trillion, individually and combined. While there are no EPA regulations for these compounds, the EPA established these lifetime health advisory levels to offer a margin of protection for all Americans throughout their life from potential adverse health effects resulting from exposure to PFOA and PFOS in drinking water.

The most common historical Navy use of these chemicals has been as a fire fighting foam (AFFF) used on Navy installations. AFFF is the most effective way to put out petroleum-based fires, such as an aircraft accident.

In June 2016, the Navy issued a policy to identify areas of potential release of these materials to the environment. As part of this policy, the Navy is testing for PFOS and PFOA in and around NAS Whidbey Island.

The Navy will provide alternate drinking water (typically bottled water) for residents if their drinking water concentrations exceed the EPA lifetime health advisory levels for PFOA and/or PFOS.

Next month, the Navy will hold public meetings to keep the community informed and will contact well owners in the sample area. Public meetings will be held in Oak Harbor and Coupeville in order for citizens to share their concerns and ask questions of public health experts. The Navy is committed to sharing additional information as it becomes available throughout the testing process.

More information about the Navy's PFAS initiative and drinking water testing program may be found at: <http://www.secnv.navy.mil/eie/pages/pfc-pfas.aspx>.



July 11, 2017

Secretary John Wiesman
Washington State Department of Health
PO Box 47890
Olympia, WA 98504-7890

Dear Secretary Wiesman:

A serious public health threat has emerged in Washington that needs your immediate attention. As you know, perfluorinated chemicals (PFAS), which are linked to multiple health effects including cancer, have been detected in the drinking water of several Washington communities, including Whidbey Island, Issaquah, and Airway Heights. We thank the Department of Health (DOH) for taking actions to test and help address this contamination. However, we are concerned that Washington state does not have a drinking water standard for these chemicals and that state residents are not adequately protected.

PFAS levels in residential wells near the naval air station on Whidbey Island were found at more than triple US EPA guidelines, most likely due to the use of firefighting foams. Issaquah also faced PFAS contamination from use of firefighting foam, requiring the installation of a filtration device for its municipal drinking water supply. And in May, a number of wells in Airway Heights community near the Fairchild Air Force Base in Spokane were found to be contaminated.

Without drinking water standards for these toxic chemicals, municipalities are not required to test residential water systems for PFAS chemicals or report test results to DOH. Thus there is no oversight and enforcement for chemicals that we know are harmful to our health. Residents should not be drinking water contaminated with these chemicals. Drinking water standards will ensure that they are not.

State action is needed because there is no federal regulatory drinking water standard. The EPA only has a non-binding health guideline of 70 parts per trillion (ppt) in drinking water for two forms of the chemical (for either PFOS or PFOA or both combined).

There is scientific evidence that the EPA guideline is not protective enough. Some states, including Minnesota, Vermont and New Jersey have adopted guidelines that are more protective for PFOA or PFOS, between 14 and 35 ppt.

It is also becoming clear that additional chemicals need to be included. Four leading scientists recently published a paper in Environmental Science & Technology titled “A Never Ending Story of Per- and Polyfluoroalkyl Substances (PFASs)?” making the case that these compounds need to be considered as a broader class.¹ In their article, they state the following:

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Exposure to these compounds has been linked to a number of health concerns:

- **Cancer:** PFASs induce several types of tumors in laboratory animals, and the International Agency for Research on Cancer has designated PFOA as a possible carcinogen based on epidemiological evidence linking exposure to kidney and testicular cancer.²⁻⁴
- **Hormone disruption:** laboratory animals exposed to certain PFASs show abnormal levels of hormones, including thyroid hormones and testosterone. Children exposed to greater levels show reduction in hormone levels and delayed puberty.⁵
- **Liver toxicity:** PFASs are associated with liver enlargement in laboratory animals.
- **Harm to the immune system:** recent research has identified the immune system as sensitive to PFASs in both laboratory and epidemiological studies. A 2012 study of 587 children found those with greater exposure to PFASs had significantly poorer responses to vaccines.⁶
- **Reduced birth weight:** a number of large epidemiological studies have related higher maternal exposure to PFASs to lower birth weight. These are consistent with laboratory findings of developmental toxicity.⁷

We understand that there are numerous sources of these chemicals in the environment, from firefighting foam to food packaging. This is why we are very supportive of the state moving forward swiftly with developing and implementing a chemical action plan.

Given the growing scientific evidence and concern in Washington with respect to drinking water contamination, we request that the DOH take the needed steps to establish drinking water standards for PFAS chemicals. We would also request a meeting to discuss these issues further

with you. Please contact Laurie Valeriano, Executive Director, Toxic-Free Future to arrange a meeting. Her contact information is 206-200-2824 or lvaleriano@toxicfreefuture.org.

Thank you very much for your attention to this critical matter.

Sincerely,

Laurie Valeriano
Executive Director
Toxic-Free Future

Heather Trimm
Executive Director
Zero Waste WA

Karen Bowman, MN, RN, COHN-S
Environmental Health Specialist
Washington State Nurses Association

Bruce Speight
Executive Director
WashPIRG

Diana Stadden
Policy & Advocacy Coordinator
Arc of Washington State

Noah Seidel
Self-Advocacy Coordinator
Self Advocates in Leadership

LeeAnne Beres
Executive Director
Earth Ministry

Felipe Rodriguez-Flores
Director of Civic Engagement and Advocacy
Progreso: Latino Progress

Citizens for Ebey's Reserve (COER)

Anne Harvey
Whidbey Water Keepers

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NCEH/ATSDR Statement and Key Messages Concerning PFAS
06/17/2016

These key messages are intended as talking points to help respond to questions from federal, state, local, territorial, and tribal health officials.

On May 19, 2016, the United States Environmental Protection Agency (USEPA) released a Lifetime Health Advisory (LTHA) for two perfluoroalkyl and polyfluoroalkyl substances (PFAS)-- Perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA). The LTHA PFAS level is lower (70 parts per trillion, as a combined total PFOS and PFOA) than the level in the previous 2009 provisional (short-term) Health Advisory (200 and 400 parts per trillion for Perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), respectively). NCEH/ATSDR knows that exposure to perfluoroalkyl substances (PFAS) is widespread, and that many of our local, territorial, tribal, state and federal partners may require assistance in addressing concerns related to PFAS contaminated water supplies.

We are taking steps to assist state and federal partners and affected communities in addressing concerns. ATSDR is assessing the feasibility of conducting health studies in communities with PFAS-contaminated drinking water, with the current focus on a possible study at the Pease Tradeport in New Hampshire (formally known as Pease Air Force Base, as well as other Department of Defense-related sites. This assessment will determine how ATSDR will address key data gaps in exposures to PFAS-contaminated drinking water and associated human health effects. In addition to the feasibility assessment, ATSDR has been providing technical assistance and/or conducting risk assessments of PFAS at several other locations around the country.

Key Message #1: Some, but not all, scientific literature suggests that certain PFAS may affect a variety of systems in the body. Additional research is needed to better understand possible human health effects from exposure to PFAS in water and food.

Scientists are not yet certain about the possible health effects resulting from human exposure to PFAS at levels typically found in our food and water. Some, but not all studies in humans have suggested that certain PFAS may affect the developing fetus and child, including possible changes in growth, learning, and behavior. In addition, they may decrease fertility and interfere with the body's natural hormones, increase cholesterol, affect the immune system, and increase cancer risk.

More research is needed to confirm or rule out possible links between health effects of potential concern and exposure to PFAS.

Many types of PFAS exist in the environment. Perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), perfluorohexane sulfonate (PFHxS) and perfluorononanoic acid (PFNA) have been more widely studied than other PFAS. For the most part, laboratory animals exposed to high doses of PFOA or PFAS, including the PFAS mentioned above, have shown changes in liver, thyroid, and pancreatic function, as well as some changes in hormone levels. However, scientists are not sure how animal data apply to human exposure because PFAS behave differently in humans than they do in animals and may be harmful in different ways.

NCEH/ATSDR Statement and Key Messages Concerning PFAS
06/17/2016

Some PFAS have a long half-life in the body, that is, the levels decrease very slowly over time. The ability of these compounds to accumulate in the body, also known as body burden, increases concerns about the possible effects on human health.

At this time, there is not enough information to evaluate the health effects of exposures to mixtures of PFAS. However, available evidence suggests that PFAS with similar chemical structures have similar health endpoints. NCEH/ATSDR recommends the dose additivity approach for risk assessment (i.e. their combined effect is equal to the sum of their individual effects). Further studies are needed to understand whether the same effects are caused by the same mechanism of action.

Key Message #2: A careful assessment of the water systems is needed if the levels of PFOA and PFOS exceed the EPA lifetime health advisory (LTHA). While alternative sources of water may be necessary in some situations, changing to a different water source may not be necessary if measures can be taken over the short-term to reduce levels below the LTHA.

- Decision-making for alternate water should be based in part on confirmatory water testing, how the water system operates, and what concentrations of PFAS are found at the point of use (e.g., at the tap).
- NCEH/ATSDR supports action to reduce PFAS concentrations in drinking water. A careful evaluation of the magnitude, frequency, and duration of exposure and risk in local drinking water sources is necessary to make local recommendations about the use of alternative water. During a short-term water remediation period (weeks, months), alternate water supplies are not necessary for most populations (see cautionary exception below) if concentrations to PFOA and PFOS are modestly above the LTHA. That is, modest short-term exposures above the LTHA are not thought to contribute significantly to health risks. Although not thresholds for health effects, ATSDR has previously supported providing alternate water at sites with water exceeding the EPA's 2009 Provisional Health Advisory established levels of 400 parts per trillion (ppt) for PFOA and 200 ppt for PFOS.
- The LTHA was developed to be protective of the most sensitive populations (fetuses and infants) to protect against short-term and long-term (life time) health effects. ***The LTHA concentrations do not represent definitive cut-offs between safe or unsafe conditions, but rather provide a margin of protection for individuals throughout their life from possible adverse health effects.*** The LTHA was derived utilizing uncertainty factors to increase confidence that the recommended LTHA is well below levels associated with possible health effects.
- Pregnant and lactating women, caregivers preparing formula for bottle-fed infants, and women of child-bearing age might consider seeking an alternate water source if levels exceed the LTHA. However, exposure of fetuses and nursing infants to PFOA and PFOS is influenced by past exposures of the mother to these chemicals, body burden, and slow excretion of these substances from the body.

NCEH/ATSDR Statement and Key Messages Concerning PFAS
06/17/2016

Key Message #3: If your water contains PFAS, particularly if levels exceed the LTHA, you can reduce exposure by using an alternative or treated water source for drinking, food preparation, cooking, brushing teeth, and any activity that might result in ingestion of water. It is safe to shower and bathe in PFAS-contaminated water.

Published studies have shown very limited absorption of PFAS through the skin. Using contaminated water for bathing or showering, washing dishes, and doing laundry is not expected to result in significant exposure to PFAS.

Key Message #4: Breastfeeding is linked with numerous health benefits for both infants and mothers. At this time, it is recommended that nursing mothers continue to breastfeed, including mothers in localities where PFAS exceeds the LTHA. The science on the health effects of PFAS for mothers and babies is evolving. When PFAS is ingested by the mother, it is transferred to the breast milk. However, given the scientific understanding at this time, the benefits of breastfeeding outweigh any known risk. To better weigh the risks and benefits of breastfeeding, mothers should contact their doctors.

Key Message #5: NCEH/ATSDR does not advise individuals to have their blood tested for PFAS.

Although specific PFAS can be measured in serum (blood), the measurements must be done in specialized laboratories and are expensive. Further, a serum PFAS concentration does not provide information that can be used to diagnose a health effect or guide a treatment plan, and cannot predict future health effects. It does not indicate when exposure occurred or the source of the exposure, although it may be suggestive.

It is important to keep in mind that most Americans have serum concentrations of one or more specific PFAS, especially PFOS and PFOA. Serum PFAS measurements are most helpful as part of a carefully designed research study.

Key Message #6: NCEH/ATSDR is involved, either directly or through assisting local, territorial, tribal, state and federal partners.

Most situations we are working on are related to drinking water contamination. We are working with two state partners on sites where PFAS-contaminated drinking water and consuming PFAS-contaminated fish are concerns. See the ATSDR PFAS for more information:

http://www.atsdr.cdc.gov/pfc/atsdr_sites_involvement.html

We are reaching out to state health departments to offer technical assistance

ATSDR is developing a profile of the toxicity of PFAS. ATSDR's draft Toxicological Profile reviews the current state of the evidence for the toxicity of PFOS and PFOA and will establish a minimal risk level (MRL) for both.

NCEH/ATSDR Statement and Key Messages Concerning PFAS
06/17/2016

A MRL is an estimate of the daily human exposure to a hazardous substance that is likely to be without appreciable risk of adverse non-cancer health effects over a specified duration of exposure. These substance specific estimates, which are intended to serve as screening levels, are used by ATSDR health assessors and other responders to identify contaminants and potential health effects that may be of concern at hazardous waste sites. **It is important to note that MRLs are not intended to define clean up or action levels for ATSDR or other Agencies.**

EPA Health Advisories provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and provide technical guidance to state agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. The health advisory values are based on non-cancer health effects for different durations of exposure (for example, one-day, ten-day, and lifetime).

FOR IMMEDIATE RELEASE:

TOWN OF COUPEVILLE PRESS RELEASE – 11-7-16

Town of Coupeville Wells

The Town of Coupeville will be conducting tests on four town water supply wells located in the Keystone and Fort Casey well fields. These tests will be conducted as a result of the EPA recently setting lifetime health advisory levels for two compounds, perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). These compounds are found in firefighting foam. NASWI has no records of this foam being used at OLF Coupeville, however, a trace amount of these compounds were found in a Navy well, tested on the airfield earlier this fall. The Town of Coupeville has determined it prudent to conduct independent testing on its own wells. At this time we have no reason to be concerned for the safety of the town's water, but we must be deliberate and vigilant in obtaining all the information we can to confirm that the Town's water supply meets or exceeds all applicable public drinking water supply standards.

The PFOA and PFOS compounds are tested in parts per trillion, requiring specific sampling and testing protocol. Staff from the State Department of Health regional office will be helping us to collect the water samples. A lab in Spokane will be conducting the actual tests. All tests will be conducted under strict quality control procedures. Samples will be taken this week and results are expected in early December.

The Navy will also be testing the Town wells later in November when they conduct other testing of private wells around the OLF. The Town looks forward to getting the Navy's results. This redundancy in testing of the Town wells, will help us all feel confident in the final results. When completed both the Town and the Navy test results will be made available to the public.

Drinking water is highly regulated by the Washington State Department of Health and US Environmental Protection Agency and is tested regularly. The water for Coupeville comes from aquifers. Well water at the Ft. Casey Water Treatment Plant is treated for the removal of iron and manganese, components often found in the Whidbey Island source waters. It is chlorinated before entering the Town's distribution system. The entire treatment process is regularly monitored by state certified operators through daily, routine testing. You can view our annual Water Quality Monitoring Results on the town website. Go to:

www.townofcoupeville.org – Documents & Info – Water Quality Reports – nine years of reports

If you have questions about the testing, please call Mayor Molly Hughes at Town Hall. 360-678-8312

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Neighbors,

On Aug. 18 th I went to this meeting. I went to hear about 1- 4 Dioxane Study and to find out what was happening..... Curiosity.....Glad I went. I am not a typist so bear with me. The notice of the meeting was not very informative and even if you saw the notice the phone and contact info was pretty useless. I left the meeting outraged , angry but determined citizens should be told of the content. I got home and the next day contacted the Whidbey News Times and dropped of all the info. I had been given along with my verbal observations of what I had heard . That was over 1 month ago I have called with no return call back. I had hoped I could let the newspaper do the story and I could remain simply a concerned homeowner but that has not happened. My moral barometer will not let this go virtually unknown.

When 4 plus years ago the Gallery Golf Cs. Received permission to pump millions of gallons of water I had lots of concerns. My biggest was the possibility of movement of contaminants in the aquifer from the old fire school next to the course and Rocky Pt. Park. When I spoke to the EPA about the pumping they knew nothing about it, but she voiced some concern and brought up the " Bad players that are in your area ". I asked " What do you mean by bad players ? She then told me "carcinogenic ie; cancer causing. We know they are there but we have no tests or guidelines for the group of bad players. Needless to say I was not very happy.

Well; they have tests and guidelines NOW and according to the meeting wells within 1 mile will have to be tested. This plan will take up to 2 years for the govt. to put into action. There is NO plan to contact homeowners NOW. Hundreds of sites nationwide most military in nature. There is a lawsuit in Pennsylvania at a now closed Navy base for contaminated wells. Erin Brokovitch Is involved so there is media coverage.

The chemical family is PFAS and was commonly used in fire retardants . As I understood this is a pretty bad chemical . That group of chemicals was listed as used and traceable at Rocky PT at the SuperFund site listed as there.

Equally bad news concerns the 1-4 Dioxane plume of contaminants has escaped Navy property and the picture is not terribly good. The plume is advancing 400 ft. approx.. per year . Within that area the govt. knows of atleast 14 wells possibly effected NOW . At the meeting they were working on a plan within hopefully 2 months to contact those homeowners. Again they have known for some time and are working on the plan. The quote was " We know the govt. is slow"

So here I am, I really hate this kind of news and even less to be the one sharing it. I was so angry that my neighbors would be left in the dark. I cannot participate in that !!!!

What you choose to do as a community I will support to the fullest. I could not put everything in this letter but I'm sure it has been enough. I've tried to be as accurate as memory serves.

Thank you for your patience and being the good neighbors you are.



**NAS Whidbey Island
Invites you to a meeting of the
Installation Restoration Program
Restoration Advisory Board**

August 18, 2016 – 1 pm to 3 pm
City of Oak Harbor Municipal Shop
1400 NE 16th Avenue, Oak Harbor, WA

Meeting Topics Include:
Land Use Control Inspections
Seawall Repair
1,4-Dioxane Focused Feasibility Study
Rothboeck Ravine Investigation
State Petroleum Cleanup Program
Military Munitions Response Program

For more information please contact:
Michael Welding
Naval Air Station Whidbey Island
360.257.2286
Michael.Welding@navy.mil



**Restoration Advisory Board Meeting
August 18, 2016
Naval Air Station Whidbey Island**

Agenda



- 1) Welcome, Introductions, and Personnel Updates
- 2) Minutes from February 24, 2015 Meeting Review
- 3) Military Munitions Response Program Update
- 4) State Petroleum Cleanup Program Update
- 5) CERCLA Program Sites Update
 - a) Rothboeck Ravine
 - b) Hangar 5
 - c) Area 6 Update
 - d) Emerging Contaminants
 - e) Area 1 – Beach Landfill

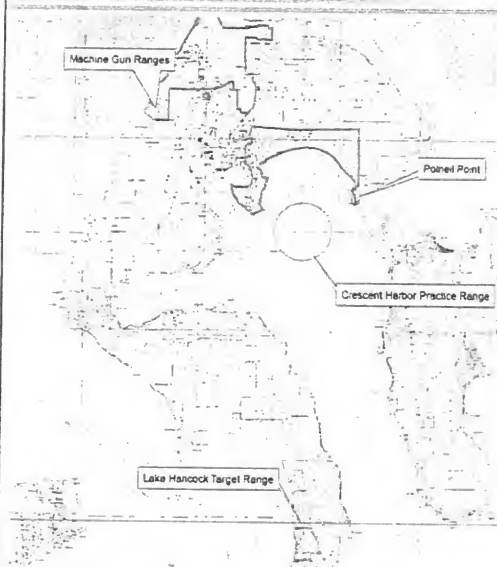
~BREAK~

- 6) Concerns from the Public
- 7) Members Comments
- 8) Old Business
- 9) New Business

~CONCLUSION~

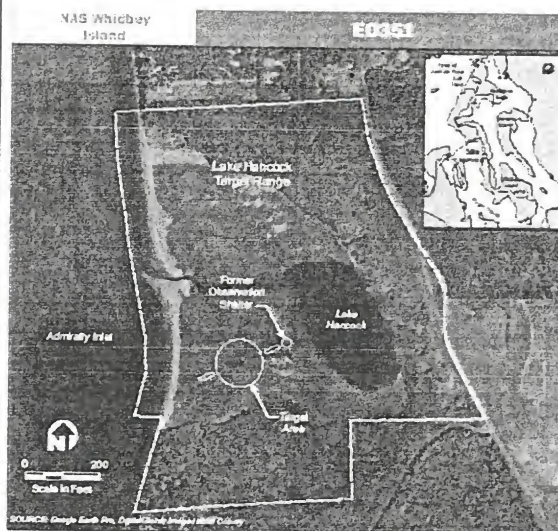
- 10) Next Meeting Date
- 11) Meeting Adjournment

Military Munitions Response Program Update



- Former Lake Hancock Target Range
- Former Polnell Point EOD/ Ordnance Burn Area
- Former Aviation Fleet Gunnery School
 - Mobile Turret Tower Range
 - Machine Gun Ranges B & C
- Former Ault Field Boresight Range (RA-C)
- Former Seaplane Base Pistol Range (RA-C)

Former Lake Hancock Target Range



Location: West coast of Whidbey Island near Greenbank, ~ 20 miles south of Ault Field

Identified Contaminants: Munitions Debris (Rocket Motor Bodies & Spotting Charges)

Established in 1944, operated until 1974 as a training range.

Used as an air-to-land target range for the firing of rockets, bombs and pyrotechnics (flares, signals, simulators, etc.).

Historical documents indicate the ordnance used was inert/practice.

CURRENT STATUS: Finalizing Record of Decision. Open House was held at Greenbank Farm on 11 July 2016. Public Comment period ended 27 July 2016.

LHTR Previous Actions



1972	EOD Surface Clearance	Surface clearance of beach areas & marshlands, underwater (divers) to ~ 50 feet off the beach. Recovered 14 tons of various types and sizes of practice bombs, rockets & smokes, mostly in the target area and in the waters off the beach. Documents describe the recovered items as inert.
1973	EOD Surface Clearance	Surface clearance removed ~ 3,000 pounds of rocket motors, four rocket motor tubes and one complete inter-rocket.
1973	Limited Subsurface Clearance	~3 acres subsurface, recovered 3 inert rocket motors from depths of 3 to 5 feet. Beach search at minus tides, no ordnance found.
1995 - 1997	Site Hazard Assessment	Sediment and surface water sampling, no munitions constituent exceedances, some metals found above background.
1996	Geophysical Survey and Investigation	Found steel plates, one rocket motor, and various metallic debris.
1997	Removal Action	Cleaned up metal-contaminated soil near the former observation shelter completed under WA Department of Ecology's (WA DOE) Model Toxics Control Act (MTCA).

3

LHTR Previous Actions



2006	Preliminary Assessment	Recommended a Site Inspection for munitions constituents.
2009	Site Investigation	Site Investigation for lead and perchlorate, no exceedances found.
2010-11	Focused Feasibility Study	Four alternatives for surface and limited subsurface clearance.
2012-13	Wetlands Delineation & Impact Study	Based on information from these two reports, WA Department of Ecology agreed to surface clearance only (no subsurface) for the wetlands.
June-July 2016	Proposed Plan	Navy proposed a Preferred Remedy for removal of MPPEH. Open House was held at Greenbank Farm on 11 July 2016.



3

LHTR Current and Future Actions



Current Actions

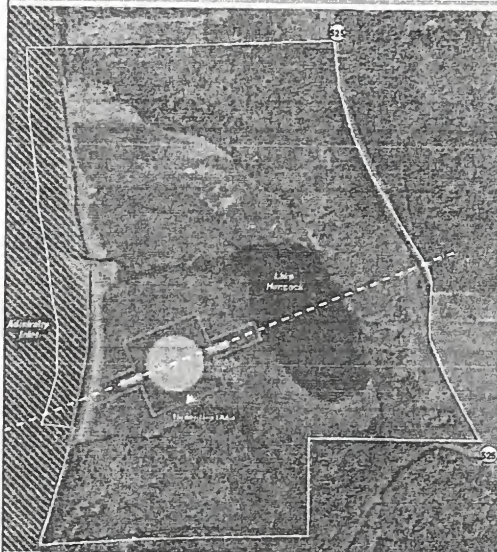
ROD	Draft ROD review
Biological Assessment	Completed in 2013 (In-house) as part of 106 Consultation; being updated for 2016.

Future Actions

Remedial Design/Action	Funding requested for FY2017-2019.
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Proposed Remedy Former Lake Hancock Target Range



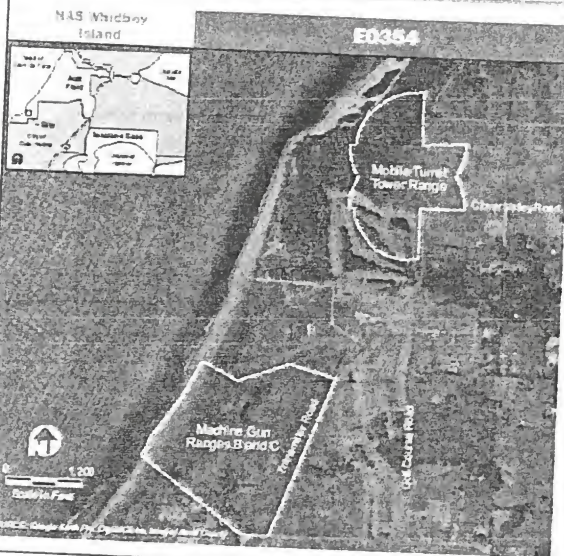
Remedial Action Objectives -

1. Prevent and/or reduce the potential for receptors to come in direct contact with MEC/MPPEH items.
2. Minimize impacts to wetlands and other resources.

Proposed Remedy -

1. Surface Removal *Only* (within green outlined area)
2. Land use controls
 - A. Annual inspections around target area;
 - B. Five-year inspections within the entire removal action area;
 - C. Maintain perimeter fence and signage.

Aviation Fleet Gunnery School



Location: SW corner of Ault Field

Identified Contaminants:
Lead, PAHs

Two *machine gun ranges*, a rifle range, a skeet range, a trap range, two special trap ranges, a *mobile turret tower range*, and a 20-mm range.

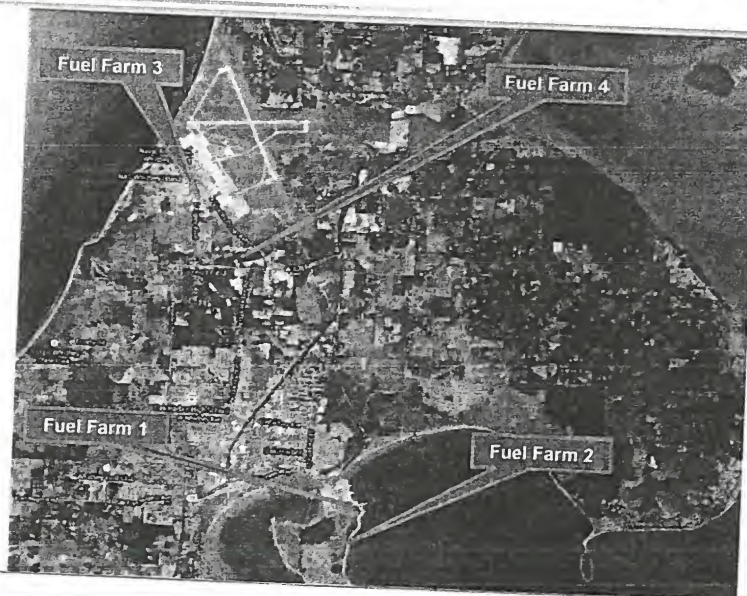
2007 - Preliminary Assessment recommended site investigation for Machine Gun Ranges B and C, and for the Mobile Turret Tower Range.

2009 - Site Investigation found no munitions constituents above cleanup levels.

2010 - EPA concurred with no further cleanup with land use limited to non-residential uses.

CURRENT STATUS: Land Use Controls in place to prevent residential use.

Petroleum/MTCA Cleanup Program Update

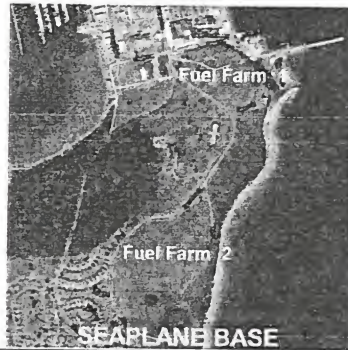


Petroleum/MTCA Cleanup Program Update



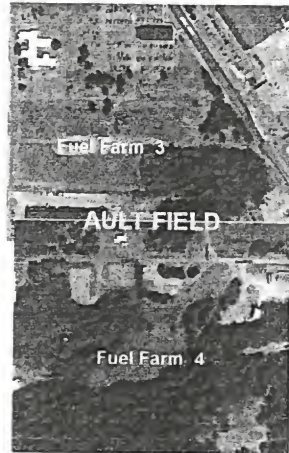
Work Completed Since February 2015

- 2014-2015 GW LTM/O – reported in February 2016
- Well Decommissioning – 20 wells @ FF1, FF2, & FF4
- 2015-2016 GW LTM/O – completed in July 2016



Future Work Planned

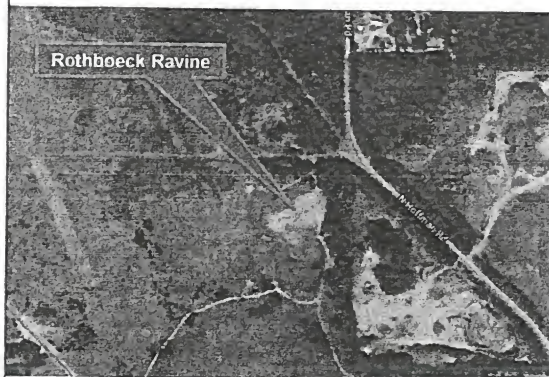
- 2016-2017 GW LTM/O
- 3rd Five Year Review – FY2017-2018



Rothboeck Ravine Soil and Groundwater Investigation



- Historically, area was used for disposal of excess soil (fill) and inert solid waste generated during on-base construction projects.
 - No identified impacts. Source of fill material placed in ravine was never documented prior to emplacement.
- 2015 Investigation was to evaluate the presence or absence of impacts to soil and/or groundwater.



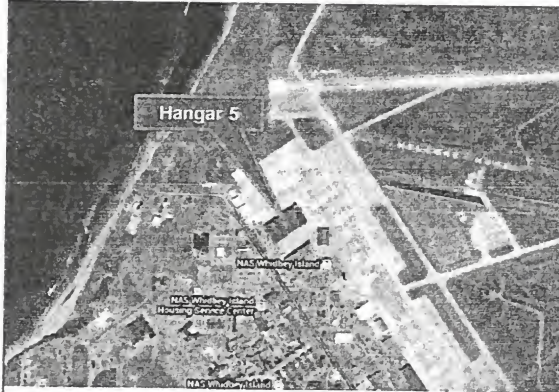
- 36 soil samples analyzed for VOCs, SVOCs, PCBs, Metals, DRO, and GRO
 - No detections above MTCA Method A / MTCA Method B cleanup levels or local background concentrations
- 3 groundwater samples analyzed for VOCs, SVOCs, Metals, DRO/RRO, GRO, and VPH
 - No detections above MCLs/ MTCA Method A / MTCA Method B groundwater cleanup levels or local background concentrations

Hangar 5

Soil and Groundwater Investigation



- 2015 Investigation was to evaluate the potential of soil vapor intrusion into Hangar 5.
 - 2012 flight line repair north of Hangar 5 encountered soils with "significant vapors."



- 11 soil samples analyzed for VOCs, SVOCs, Metals, DRO/RRO, GRO, and EPH/VPH
 - No detections above MCLs/ MTCA Method A / MTCA Method B groundwater cleanup levels local background concentrations, except one GRO detection at 180mg/kg (versus 100mg/kg Method A)
- 3 groundwater samples analyzed for VOCs, SVOCs, Metals, DRO/RRO, GRO, and VPH
 - No detections above MCLs/ MTCA Method A / MTCA Method B groundwater cleanup levels local background concentrations

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Area 6

Progress Update



Current Actions:

- Final Focused Feasibility Study (FFS), Proposed Plan (PP) and Record of Decision (ROD) Amendment are concurrently being prepared.
- Schedule of Completion:
 - FFS – End of August 2016
 - Proposed Plan – Mid-November 2016
 - Public Meeting – Mid-November 2016
 - ROD Amendment – End of February 2017

14

Area 6 Nature of Off-site Plume



Consensus achieved during 3 November 2015 Meeting with EPA on the following items:

- All agree that there may be an unknown associated with who contributes to the off-site plume in addition to the Navy.
- The extent of the plume beyond Well 6-DW-38 is not well defined and may extend beyond the furthest downgradient well.
- Additional investigation is warranted to better understand the source(s), and the nature and extent of the off-site plume.

The following items are still to be resolved:

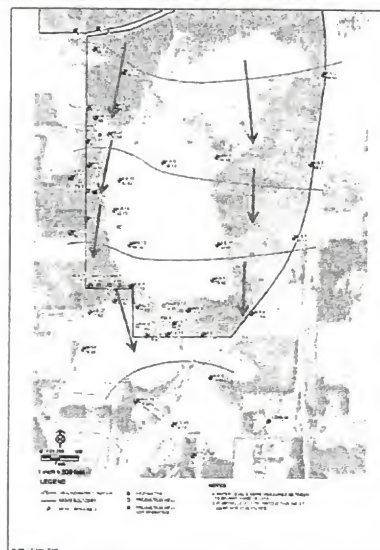
- EPA firmly reiterated their position that the Navy is responsible because of Strict, Joint & Several Liability.
 - *"Joint and Several:* Parties who contribute to a site's pollution are each liable as if they alone polluted that site."
- Also stated that the Navy is welcome to do additional investigations but they must be independent of the remedy and does not remove the Navy's responsibility.

Area 6 Conceptual Site Model

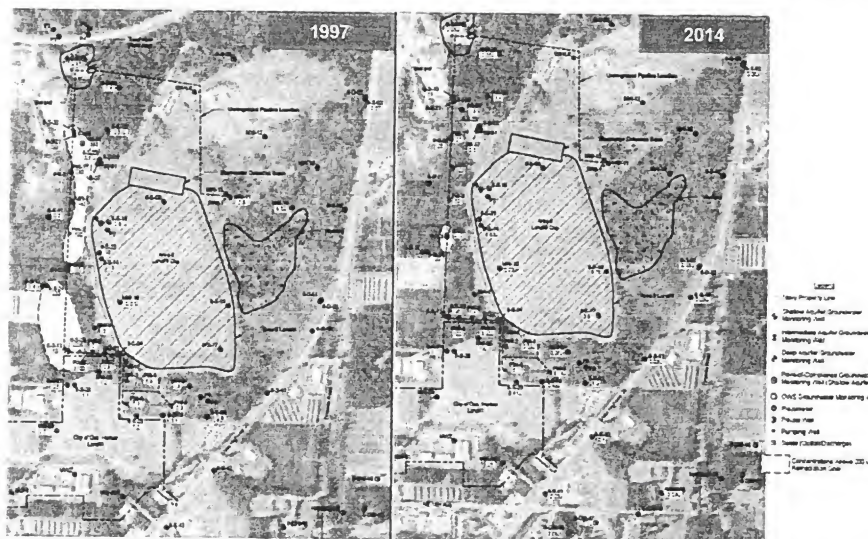


Groundwater Flow

- Depth to groundwater is about 80 feet in source area and increases to 120 feet in downgradient area
- Groundwater flow is generally to the south



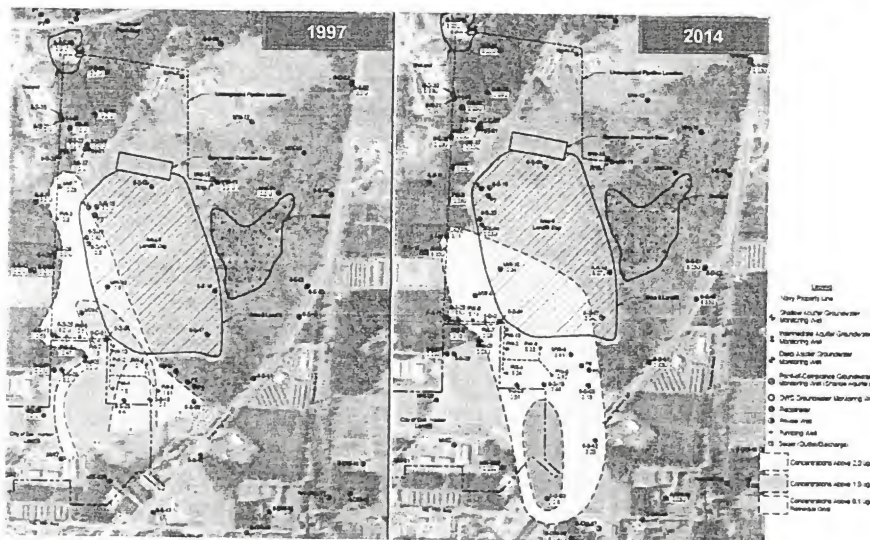
1,1,1-TCA in Groundwater



TCE in Groundwater



Area 6 Plume Distribution Vinyl Chloride in Groundwater



19

Area 6 Plume Distribution 1,4-Dioxane in Groundwater



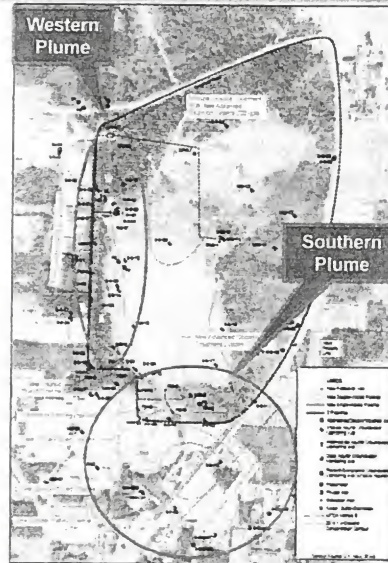
20

Area 6 Preferred Remedy



The Navy's and USEPA's Preferred Remedy includes:

- Refurbishing the existing treatment plant and installing a new plant along the southern boundary.
- Active P&T with additional extraction wells;
- Advanced oxidization treatment (hydrogen peroxide and ozone);
- Surface discharge of treated water (same as current system);
- EPA and Navy agree that groundwater modeling shows plume capture with this extraction network.



Area 6 Preferred Remedy, continued



USEPA supports results of the Navy's groundwater models.

- Wells along SR20 will be able to capture the southern plume.
- Sufficiently estimate the extent of the plume beyond Well 6-DW-38 for the FFS.
- However, actual data must be used for the PP and ROD Amendment.

The PP and ROD Amendment will define the "integrated remedy" which includes:

- Pump and treat (P&T)
- Monitored natural attenuation (MNA)
- Land use controls (LUCs)



Area 6

Preferred Remedy, continued



One of three conditions must be met for active treatment endpoint:

- Concentrations throughout the plume reach 3 times the remedial goal (federal or state cleanup level); **or**
 - *Statistically determined*
- System is operated for the time that the groundwater model predicted would reach 3 times the remedial goals; **or**
 - *EPA and Navy agreed that the groundwater model adequately represented site conditions and predictions were valid.*
- Concentrations of dissolved chemicals no longer decreases (asymptotic conditions).
 - *Statistically determined*

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Area 6

Preferred Remedy, continued



Navy and EPA agreed that MNA must be part of the overall remedy.

- No active treatment will be capable of reaching the cleanup goals, as it is likely not economical and could be technically infeasible.

MNA cannot replace active treatment.

- MNA will be implemented at the end of active treatment.

EPA supports shutting off the treatment plants and moving directly to MNA once one of the endpoint condition is met.

As part of the MNA remedial design the Navy is:

- Evaluating and confirming the parameters (biological, chemical, physical, or mechanical) used to measure MNA.
- Performing a simple, hydrologic calculation for MNA with no other active treatment.

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Area 6

Preferred Remedy, continued



Modify existing Land Use Controls:

- No use of groundwater in areas with concentrations greater than levels protective of human health and the environment.
- These restrictions may extend off-site. How far will be determined by Downgradient Well Survey (*next slide*)
- Navy will assist those property owners effected by these controls.

Removal of Land Use Controls :

- After achieving the remedial goals throughout the entire plume ("Point of Compliance" is entire plume).
- Navy and EPA support a statistical evaluation of the data to demonstrate that concentrations within the plume have reduced to the Remedial Goals.

Area 6

Downgradient Well Survey



Still in the planning phase...

Samples will be collected from up to 14 properties.

Well owners will be contacted prior to sampling.

Results will be made available to the property owner after sampling has been completed.

Emerging Contaminants



Per- and Polyfluoroalkyl substances (PFASs)

- May also be identified as PFCs (perfluorinated chemicals) or AFFF (aqueous film-forming foam). Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) have been the most extensively produced and studied.
- There are currently no established national primary drinking water regulations for PFOA and PFOS. EPA is evaluating PFOA and PFOS as drinking water contaminants using the process required by the Safe Drinking Water Act (SDWA).
- In 2009, EPA established Provisional Health Advisory (PHA) for PFOS and PFOA. For more information on this emerging contaminant, see www.epa.gov/cfas
- Historically, PFASs may have been used by the Navy to help fight fires at airfields and/or ships and other places where petroleum-product-based fires are a risk.
- The Navy is currently conducting an inventory of all sites where PFASs may have been used or stored. For additional information on the Navy's strategy for PFASs, see <http://www.seonavy.navy.mil/aie/pages/cfc-cfas.aspx>

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Beach Landfill, Area 1 Shoreline Erosion Protection System Construction



- Record of Decision for Area 1 Beach Landfill requires Land Use Controls to prevent human exposure to landfill contents.
- The western boundary of Areas 1 and 52 consists of an approx. 10 to 13-foot high shoreline bluff protected by a 1340 foot long seawall constructed in 2012.
- Seawall along Areas 1 and 52 functions to prevent exposure to landfill contents.

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Beach Landfill, Area 1

Shoreline Erosion Protection System Construction



- Repairs to the seawall in Area 52 were completed in January 2016 to repair storm damage.
- Bluff at the south end of Area 1 has eroded and landfill debris is visible.



Area 52 Repair Area - Looking South



South End of Area 1 Beach Landfill
Close-up Showing Landfill Debris

Beach Landfill, Area 1

Shoreline Erosion Protection System Construction



- The seawall in Area 1 will be extended south approximately 150 feet to isolate landfill material
- Construction planned for January 2017



Area 1 Seawall Extension Area - Looking North



South End of Area 1 Looking East - Seawall Extension Area

Hello Residents,

I feel the need to respond to Ms. Maryon Attwood's letter to the Editor in the December 28 edition of the Whidbey News Times. Her letter's primary emphasis is on the Navy's draft Environmental Impact Statement (EIS), which is currently out for public comment. This is an important topic, and is of interest to many in the greater Coupeville community. However, the statement I want to address, one that seems to be included only for its emotional impact, is: "Today, we know that the worst is true – water is contaminated with a bad-acting fire-retardant chemical. In Coupeville's coffee shops and restaurants now, contaminated water is served..."

While I appreciate Ms. Atwood's passion, this type of intentional distortion has no place in a reasonable discussion. Clearly, it was meant only to instigate fear and panic in the community and was apparently written without regard to its emotional or economic effect. While the protection and future of our water supplies is of critical importance, it must be addressed using the best, most current, information available and without resorting to fearmongering.

Here are the FACTS

- Military Bases all over the Nation as well as civilian Fire Departments have used a fire fighting foam called AFFF. This foam was developed to put out petroleum fires, such as you would have with an airplane crash.
- This foam contains many chemicals, but two in particular are Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS). These compounds do not easily break down in the environment or the human body. They have a cumulative effect.
- These compounds are not currently regulated by the Department of Health, meaning, public and private water systems are not required to test for them.
- Recently, the Environmental Protection Agency (EPA) set lifetime health advisory levels for these two compounds at 70 parts per trillion (ppt). This is intended to be a safe and protective level against adverse health effects if you consume water, at this level or below, for an entire lifetime.
- Military bases around the country have started testing for these compounds. Here on Whidbey Island, this means the Navy is providing free testing for all wells within a one mile radius of their airfields.
- So far, the Navy has received results on 100 test samples of private wells. Six wells in the OLF Coupeville area and one near Ault Field have come back above the EPA's lifetime advisory level. These homeowners have been provided temporary drinking water until a permanent solution can be found.
- The Town of Coupeville uses four wells in the Keystone and Ft. Casey area. The water from all four is blended together before entering the Town's distribution system.

- The Town and the Navy have independently conducted tests on our wells, and at the point the water enters our distribution system. Three of the wells tested at the non-detect level for both compounds. The Keystone well tested at 59, 61 and 62 ppt for PFOA. At distribution, after the water is blended, it tested at 25, 27 and 38 ppt for PFOA. All of these results are below the EPA's lifetime advisory level.
- The Navy continues to provide free testing of private wells within the one mile radius of the airstrips. If you have not gotten your well tested, and would like to, call 360-396-1030 to make an appointment.
- The Navy is drilling groundwater monitoring wells to help Island County understand the movement of ground water in the area. More testing of private wells is needed. We are still in the information gathering stage. More information is needed to fully understand the extent of the problem and determine solutions.

People with different agendas are carelessly using the word 'contaminated' with reference to drinking water. Technically, the definition of contaminated is: making something impure by exposure to or addition of a poisonous or polluting substance. Water can be contaminated by many different sources; naturally occurring geological factors, animals, agriculture, and manmade substances. However, I think when people hear "contaminated water is served" they believe it to be unsafe to drink. With the facts we have right now, I do not believe that is the case with the Town of Coupeville's drinking water. According to the agencies charged with protecting public health, the Town's drinking water is safe.

You will hear people cite different countries and states who consider levels lower than 70 ppt to be unsafe. You will hear people claim to be 'experts' on PFOA and PFOS. Some people are holding public meetings, bringing in 'consultants' to talk about these compounds. I would remind you to question the information you are hearing. Just because we live in an age of instant information, does not make all people experts, or all sources credible, or all motives pure. Ask questions, be informed.

I do not claim to be an expert on safe drinking water. I have chosen to follow the advice, recommendations and requirements of the Environmental Protection Agency, the Agency for Toxic Substances and Disease Registry (a branch of the Center for Disease Control), the State Department of Health (DOH) and Island County Public Health. Using their guidelines, the Town of Coupeville's water is safe to drink. Do I wish our water was 100% free of all impurities? Yes. Do I think that is a realistic goal for water these days? No. Even though there may be some level of "contaminants" in drinking water, those levels may be such that they don't pose a threat to public health. And if the levels of any given "contaminant" exceed the water quality health standards set by the appropriate regulatory authorities, we would treat the water to reduce the level of "contaminant" so that it meets those water quality health standards.

I don't want to give the impression that this is not an important issue, it is. Safe drinking water is vital to the health and well-being of any community. I also understand this is just the beginning of the story. The EPA could lower their lifetime advisory threshold. The DOH could decide to regulate these compounds. We need more information on private wells and ground water movement. We need to take care of the individual homeowners with effected wells. We will continue to test the Town wells out of an abundance of caution. We will be vigilant and aggressive in our responsibility to provide the Town of Coupeville with safe drinking water. We will continue to be completely transparent as new issues arise and new information is received.

What's my bottom line on this subject? Don't panic. Don't make careless comments that can cause fear and distrust among your neighbors. Don't call into question the safety of our drinking water because you are trying to fortify your comments on the EIS. Don't thoughtlessly make a comment about Coupeville's coffee houses and restaurants that could affect their business. Please, please, act and speak responsibly.

And the absolute bottom line...The Town of Coupeville's water is safe to drink.

I am always available and happy to answer questions about our drinking water or any other subject. You can find me in Town Hall...or a local coffee shop...or one of our many wonderful restaurants.

Molly Hughes
Mayor

Handling of calls regarding PFAS, Coupeville and the Navy

Calls regarding the navy's sampling efforts (when, where, why not my well?):

Navy Representatives
360-396-1030
PAO_feedback@navy.mil

Calls regarding health effects of PFOA, PFOS (collectively PFAS or PFCs):

Elizabeth Allen, US EPA
206-553-1807
Allen.Elizabeth@epamail.epa.gov

Rhonda Kaetzel, ATSDR
206-553-0530
KAETZEL.RHONDA@epa.gov

Calls regarding the sample results for the Town of Coupeville's wells:

Molly Hughes, Mayor of Coupeville
678-4461
mayor@townofcoupeville.org

Carolyn Cox, WA State Dept. of Health
(360) 236-3162
carolyn.cox@doh.wa.gov

Calls regarding wells (depths, locations, aquifers):

Doug Kelly, ICPH
678-7885
D.Kelly@co.island.wa.us

Some web resources that people could be directed to:

[USN Site Related to NAS Whidbey PFAS Investigation](#) (includes fact sheets with sampling area maps)

[USN Site Discusses PFC/PFAS in general](#)

[EPA Site Discusses PFAS's](#)

[CDC/ATSDR Site Discusses Health Effects of PFAS's](#)

Keith Higman

rec. 1/26/17

as part of PRR?
from Astwood

From: Doug Kelly
Sent: Thursday, October 27, 2016 2:26 PM
To: Keith Higman; Jill Wood; Andrea Krohn
Subject: FW: Priority 1 PFC Off-base SAP - Whidbey Island, OLF Coupeville - review by 11/3
Attachments: OLF Coupeville_Drinking_Water_Draft PFC UFP-SAP_10262016.pdf
Importance: High

-----Original Message-----

From: Leibman, Kendra R CIV NAVFAC NW, EV32 [mailto:kendra.leibman@navy.mil]
Sent: Thursday, October 27, 2016 2:25 PM
To: Einan, Dave; steve.hulsman@doh.wa.gov; Kaetzel, Rhonda; Doug Kelly
Subject: Priority 1 PFC Off-base SAP - Whidbey Island, OLF Coupeville - review by 11/3
Importance: High

Good afternoon,

Attached is the Draft SAP for the off-base drinking water sampling effort near OLF Coupeville. NOTE: The approach for off-base sampling near OLF was revised based on detect of PFOA in the drinking water well at Building 2807 (4x less than the LHA, at depth = 176ft) (information received as part of recent expanded UCMR 3 sampling effort).

I would greatly appreciate any feedback you have by 11/3. I apologize for the short review time, especially given that our Risk Comm Meetings are on 11/2+3.

Other Updates:

- The team is working on responses to your comments on the Draft SAP for off-base sampling near Ault Field. They will be sent shortly.
- A third SAP will be out early next week for the on-base groundwater sampling effort at OLF Coupeville (target = 10/31).
- The Draft Comm Plan (including background, talking points, factsheets and letters) will be submitted for your review tomorrow, 10/28. Please bring your comments on these materials to the risk comm meetings on 11/2+3. I am available to discuss sooner, but it is important that your concerns are vetted to the entire team (which includes you).

Please let me know if you have any questions as you review.

Thank you,
Kendra

Kendra Leibman, P.E.
Remedial Project Manager

NAVFAC NW
1101 Tautog Circle, Suite 203
Silverdale, WA 98315-1101

(O) 360-396-0022
(C) 509-999-6843
(F) 360-396-0857

kendra.leibman@navy.mil



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WIHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

F4I

5726
Ser N46/2582
December 14, 2016

Mr. and Mrs. Michael Millenbach
1023 Keystone Hill Rd
Coupeville, WA 98239

Dear Mr. and Mrs. Millenbach:

Subj: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULTFIELD DRINKING
WATER TESTING RESULTS

The initial results from your drinking water samplings for per- and polyfluoroalkyl substances (PFAS) included perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA) are above the Environmental Protection Agency's (EPA's) Lifetime Health Advisory (LHA). As promised in our earlier letter, we are providing you with an initial delivery of drinking and cooking water and would like to work with you to ensure future deliveries occur in a manner that works best for you.

The specific test results of the drinking water sampling performed at your residence are provided in Enclosures 1, 2 and 3. Please note that these are initial results, which still need to be validated. The validation process can take several weeks, however, we are providing you with drinking and cooking water based on this initial data. We will provide you a copy of the validated results once received and update you on any changes necessary.

The health and safety of our neighbors are my top priority, which is why the Navy developed a protective policy to address past releases of Aqueous Film Forming Foam (also known as firefighting foam) (AFFF) containing PFAS. PFAS are unregulated or "emerging" contaminants, which have no Safe Drinking Water Act regulatory standards or routine water quality testing requirements.

In May 2016, the EPA developed a LHA for two PFAS compounds, specifically PFOS and PFOA. According to the EPA, health advisory levels are not regulatory standards. They are health-based concentrations which should offer a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOS and PFOA in drinking water. The EPA health advisory level for lifetime exposure is 70 parts per trillion (ppt) for PFOS and 70 ppt for PFOA. When both PFOS and PFOA are found in drinking water, the combined concentrations should not exceed 70 ppt.

The Navy will continue working closely with Region 10 U.S. EPA, Agency for Toxic Substances and Disease Registry, State of Washington Department of Health, and Island County Public Health to develop a long-term solution. In the interim, we will continue to supply you with an alternate source of drinking and cooking water until a long term solution is established. I am committed to the health and safety of all neighbors in our community and will keep you updated on this issue.

5726
Ser N46/2582
December 14, 2016

Below are links to sites that will provide additional detail and background information:

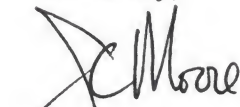
EPA Fact Sheet about the PFOS and PFOA health advisory levels: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>, and

Naval Facilities Engineering Command Northwest update: <http://go.usa.gov/xkMBc>

We will host another public meeting in early 2017 to share a summary of the drinking water investigation results and any plans for additional sampling. No specific results will be shared with the general public. You will receive an email or phone call of this meeting a minimum of one week before it is held.

Thank you for your cooperation as we work to ensure that human health and the environment are protected. I understand that you may have additional questions regarding the Navy's actions and what this means to you. Please contact the Navy's Public Affairs Officer Leslie Yuenger at (360) 396-6387 or by email at PAO_feedback@navy.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "G. C. Moore", written over a large, stylized "X" mark.

G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Summary of results
 2. Laboratory results
 3. Explanation of laboratory abbreviations

Mr. Micheal Millenbach
1023 Keystone Hill Road
WI-CV-2RW06-1116
Date Collected: 11/29/16
Time Collected: 10:08

Below are the preliminary, unvalidated test results for the November 29, 2016 sample of your drinking water. These initial results indicate that your drinking water sample exceeds U.S. Environmental Protection Agency's lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). The Navy will deliver bottled water to your property at no cost to you, until a long term solution can be implemented. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy is continuing to work in partnership with the Region 10 Environmental Protection Agency (EPA), Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to develop a long-term solution associated with PFAS in drinking water and groundwater resulting from activities at OLF Coupeville and Ault Field.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	8.9 U	70
Perfluorooctanoic acid (PFOA)	230	70
PFOS and PFOA (cumulative)	230	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS) ¹	100 U	NA

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

1. There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 320-23928-1

SDG No.:

Client Sample ID: WI-CV-2RW06-1116

Lab Sample ID: 320-23928-13

Matrix: Water

Lab File ID: 05DEC2016A6A_232.d

Analysis Method: 537

Date Collected: 11/29/2016 10:08

Extraction Method: 537

Date Extracted: 12/03/2016 12:19

Sample wt/vol: 270.4 (mL)

Date Analyzed: 12/10/2016 11:17

Con. Extract Vol.: 1.00 (mL)

Dilution Factor: 1

Injection Volume: 10 (uL)

GC Column: Acquity ID: 2.1 (mm)

% Moisture:

GPC Cleanup: (Y/N) N

Analysis Batch No.: 141294

Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.22	E	0.028	0.022	0.0087
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	105		70-130
STL00996	13C2 PFDA	115		70-130

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: <u>TestAmerica Sacramento</u>	Job No.: <u>320-23928-1</u>
SDG No.: _____	
Client Sample ID: <u>WI-CV-2RW06-1116 DL</u>	Lab Sample ID: <u>320-23928-13 DL</u>
Matrix: <u>Water</u>	Lab File ID: <u>05DEC2016A6A_233.d</u>
Analysis Method: <u>537</u>	Date Collected: <u>11/29/2016 10:08</u>
Extraction Method: <u>537</u>	Date Extracted: <u>12/03/2016 12:19</u>
Sample wt/vol: <u>270.4(mL)</u>	Date Analyzed: <u>12/10/2016 11:46</u>
Con. Extract Vol.: <u>1.00(mL)</u>	Dilution Factor: <u>2</u>
Injection Volume: <u>10(uL)</u>	GC Column: <u>Acquity</u> ID: <u>2.1(mm)</u>
% Moisture: _____	GPC Cleanup: (Y/N) <u>N</u>
Analysis Batch No.: <u>141294</u>	Units: <u>ug/L</u>

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.089	U	0.11	0.089	0.029
335-67-1	Perfluorooctanoic acid (PFOA)	0.23	D	0.055	0.044	0.017
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.20	U	0.26	0.20	0.088

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	111		70-130



FACT SHEET PFOA & PFOS Drinking Water Health Advisories

Overview

EPA has established health advisories for PFOA and PFOS based on the agency's assessment of the latest peer-reviewed science to provide drinking water system operators, and state, tribal and local officials who have the primary responsibility for overseeing these systems, with information on the health risks of these chemicals, so they can take the appropriate actions to protect their residents. EPA is committed to supporting states and public water systems as they determine the appropriate steps to reduce exposure to PFOA and PFOS in drinking water. As science on health effects of these chemicals evolves, EPA will continue to evaluate new evidence.

Background on PFOA and PFOS

PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). PFOA and PFOS have been the most extensively produced and studied of these chemicals. They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. They are also used for firefighting at airfields and in a number of industrial processes.

Because these chemicals have been used in an array of consumer products, most people have been exposed to them. Between 2000 and 2002, PFOS was voluntarily phased out of production in the U.S. by its primary manufacturer. In 2006, eight major companies voluntarily agreed to phase out their global production of PFOA and PFOA-related chemicals, although there are a limited number of ongoing uses. Scientists have found PFOA and PFOS in the blood of nearly all the people they tested, but these studies show that the levels of PFOA and PFOS in blood have been decreasing. While consumer products and food are a large source of exposure to these chemicals for most people, drinking water can be an additional source in the small percentage of communities where these chemicals have contaminated water supplies. Such contamination is typically localized and associated with a specific facility, for example, an industrial facility where these chemicals were produced or used to manufacture other products or an airfield at which they were used for firefighting.

EPA's 2016 Lifetime Health Advisories

EPA develops health advisories to provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. In 2009, EPA published provisional health advisories for PFOA and PFOS based on the evidence available at that time. The science has evolved since then and EPA is now replacing the 2009 provisional advisories with new, lifetime health advisories.

FACT SHEET

PFOA & PFOS Drinking Water Health Advisories

Recommended Actions for Drinking Water Systems, continued

Steps to Limit Exposure

A number of options are available to drinking water systems to lower concentrations of PFOA and PFOS in their drinking water supply. In some cases, drinking water systems can reduce concentrations of perfluoroalkyl substances, including PFOA and PFOS, by closing contaminated wells or changing rates of blending of water sources. Alternatively, public water systems can treat source water with activated carbon or high pressure membrane systems (e.g., reverse osmosis) to remove PFOA and PFOS from drinking water. These treatment systems are used by some public water systems today, but should be carefully designed and maintained to ensure that they are effective for treating PFOA and PFOS. In some communities, entities have provided bottled water to consumers while steps to reduce or remove PFOA or PFOS from drinking water or to establish a new water supply are completed.

Many home drinking water treatment units are certified by independent accredited third party organizations against American National Standards Institute (ANSI) standards to verify their contaminant removal claims. NSF International (NSF®) has developed a protocol for NSF/ANSI Standards 53 and 58 that establishes minimum requirements for materials, design and construction, and performance of point-of-use (POU) activated carbon drinking water treatment systems and reverse osmosis systems that are designed to reduce PFOA and PFOS in public water supplies. The protocol has been established to certify systems (e.g., home treatment systems) that meet the minimum requirements. The systems are evaluated for contaminant reduction by challenging them with an influent of $1.5 \pm 30\% \mu\text{g/L}$ (total of both PFOA and PFOS) and must reduce this concentration by more than 95% to $0.07 \mu\text{g/L}$ or less (total of both PFOA and PFOS) throughout the manufacturer's stated life of the treatment system. Product certification to this protocol for testing home treatment systems verifies that devices effectively reduces PFOA and PFOS to acceptable levels.

Other Actions Relating to PFOA and PFOS

Between 2000 and 2002, PFOS was voluntarily phased out of production in the U.S. by its primary manufacturer, 3M. EPA also issued regulations to limit future manufacturing, including importation, of PFOS and its precursors, without first having EPA review the new use. A limited set of existing uses for PFOS (fire resistant aviation hydraulic fluids, photography and film products, photomicro lithography process to produce semiconductors, metal finishing and plating baths, component of an etchant) was excluded from these regulations because these uses were ongoing and alternatives were not available.

In 2006, EPA asked eight major companies to commit to working toward the elimination of their production and use of PFOA, and chemicals that degrade to PFOA, from emissions and products by the end of 2015. All eight companies have indicated that they have phased out PFOA, and chemicals that degrade to PFOA, from emissions and products by the end of 2015. Additionally, PFOA is included in EPA's proposed Toxic Substance Control Act's Significant New Use Rule (SNUR) issued in January 2015 which will ensure that EPA has an opportunity to review any efforts to reintroduce the chemical into the marketplace and take action, as necessary, to address potential concerns.

Where Can I Learn More?

- EPA's Drinking Water Health Advisories for PFOA and PFOS can be found at: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>
- PFOA and PFOS data collected under EPA's Unregulated Contaminant Monitoring Rule are available: <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>
- EPA's stewardship program for PFAS related to TSCA: <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/and-polyfluoroalkyl-substances-pfass-under-tsca>
- EPA's research activities on PFASs can be found at: <http://www.epa.gov/chemical-research/perfluorinated-chemical-pfc-research>
- The Agency for Toxic Substances and Disease Registry's Perfluorinated Chemicals and Your Health webpage at: <http://www.atsdr.cdc.gov/PFC/>



The family tree of perfluoroalkyl and polyfluoroalkyl substances (PFAS)

Names and abbreviations

9/28/2016

This fact sheet tells you about chemical names within the family of perfluoroalkyl and polyfluoroalkyl substances (PFAS) and their basic chemical structure. It also spells out abbreviations for common PFAS.

PFAS are a family of man-made chemicals that contain carbon, fluorine, and other elements.

The family tree image below, Figure 1, shows some of the different families of PFAS. For simplicity, it does not include all PFAS subfamilies. Follow along – starting at the “fallen apple” of PFC and then continuing up the tree trunk into the branches.

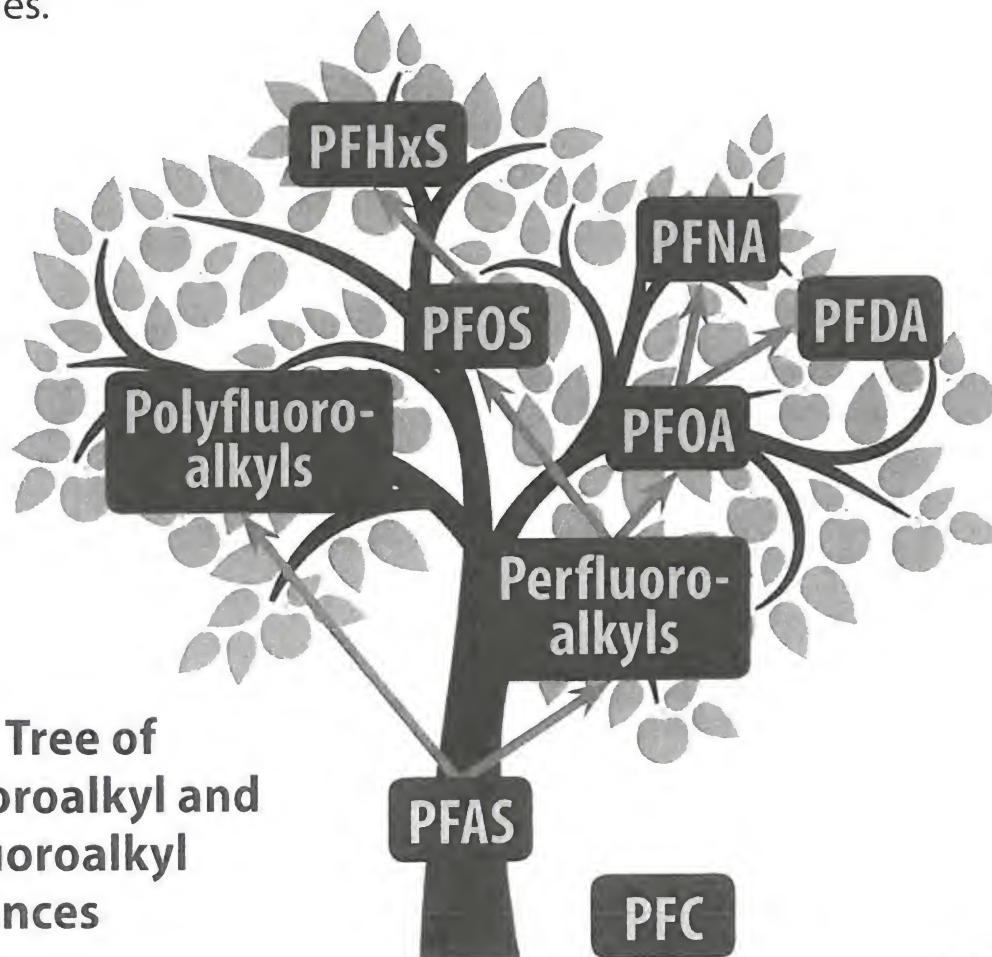


Figure 1.

Family Tree of Perfluoroalkyl and Polyfluoroalkyl Substances

The ToxGuide™ is developed to be used as a pocket guide. Tear off at perforation and fold along lines.

Sources of Exposure

Toxicokinetics and Normal Human Levels

Biomarkers/Environmental Levels

ToxGuide™ for Perfluoroalkyls

August 2015

General Populations

- The major sources of exposure to perfluoroalkyls, especially perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), is contaminated food and drinking water.
- Industrial releases of perfluoroalkyls in ambient air or surface water may also be a source of exposure for the general population.
- The general population may also be exposed to PFOS from mill treated carpets and to PFOA from migration from paper packaging and wrapping into food and inhalation from impregnated clothes.

Occupational Populations

- The production of perfluoroalkyl and use of perfluoroalkyl containing products are sources of occupational exposure.

Toxicokinetics

- Limited data indicate that perfluoroalkyls are absorbed from the respiratory tract. Studies in animals suggest that many perfluoroalkyls (including PFOA and PFOS) are almost completely absorbed from the gastrointestinal tract.
- The available data suggest that perfluoroalkyls are not metabolized or undergo chemical reactions in the body.
- Perfluoroalkyls are primarily excreted in the urine.
- There are substantial differences in the elimination half-times across perfluoroalkyl compounds and animal species. The estimated elimination half-times for PFOA, PFOS, perfluorohexane sulfonic acid (PFHxS), perfluorobutane sulfonic acid, and perfluorobutyric acid in humans are 3.8 years, 5.4 years, 8.5 years, 665 hours, and 72 hours, respectively. Much shorter half-times have been estimated in experimental animals.

Normal Human Levels

- Perfluoroalkyls appear to be ubiquitous in human blood based on the widespread detection of these substances in human serum samples.
- Mean serum concentrations of PFOA and PFOS, and PFHxS in the U.S. were 3.07 and 9.32 ng/mL, respectively, PFHxS levels were <4 and other perfluoroalkyls were generally <1 ng/mL.

Biomarkers

- Measurement of serum or whole blood perfluoroalkyl concentrations is the standard accepted biomarkers of exposure to perfluoroalkyls.

Environmental Levels

Air

- Mean PFOA levels ranged from 1.54–15.2 pg/m³ in urban air samples in the U.S., Norway, and Japan. PFOS levels in ambient air are generally <5 pg/m³ and levels of other perfluoroalkyls are generally <1 pg/m³.

Water

- Perfluoroalkyl levels in surface water samples are generally below 50 ng/L.

Soil

- Background levels of perfluoroalkyls in soil and sediment have not been located.

Reference

Agency for Toxic Substances and Disease Registry (ATSDR). 2015. Toxicological Profile for Perfluoroalkyls (Draft for Public Comment). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

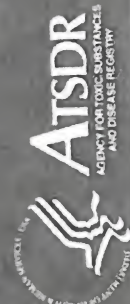
U.S. Department of Health and Human Services
Public Health Service
Agency for Toxic Substances and Disease Registry
www.atsdr.cdc.gov

Contact Information:

Division of Toxicology
and Human Health Sciences
Environmental Toxicology Branch

1600 Clifton Road NE, E-57
Atlanta, GA 30329-4027
1-800-CDC-INFO
1-800-232-4636

www.atsdr.cdc.gov/toxpro2.html





DEPARTMENT OF THE NAVY
THE ASSISTANT SECRETARY OF THE NAVY
(ENERGY, INSTALLATIONS AND ENVIRONMENT)
1000 NAVY PENTAGON
WASHINGTON DC 20350-1000

SEP 30 2016

Ms. Tina M. O'Rourke
Horsham Water & Sewer Authority
617 Horsham Road
Horsham, PA 19044

Dear Ms. O'Rourke:


Thank you for your September 12, 2016 letter to Secretary Mabus concerning perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) impacting the drinking water supplies in Horsham township. I am responding on behalf of the Secretary of the Navy.

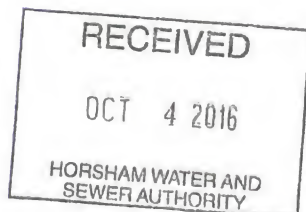
Our Navy staff has been working closely with your office over the past several years to address this important issue. As you note, the Navy is taking all appropriate actions to address both public and private drinking water sources contaminated with PFOS and PFOA above the Environmental Protection Agency (EPA) lifetime health advisory (LHA) levels in those areas where PFOS or PFOA originate on the former Naval Air Station Joint Reserve Base Willow Grove. We continue to coordinate these actions with EPA Region 3 and the Pennsylvania Department of Environmental Protection.

The Navy is funding the installation and operation of carbon filtration systems for public wells, as well as interim replacement water purchase for locations where public wells exceeded the EPA LHA levels and are currently offline. However, water with PFOS and PFOA below the EPA LHA levels is considered safe for all consumptive purposes. If the Horsham Water and Sewer Authority unilaterally chooses to take actions regarding water with PFOS and PFOA below these safe levels and pass those costs onto the consumers, those costs are not eligible for Navy funding. These funding authority issues were explained by the Deputy Assistant Secretary of Defense at the September 22, 2016 meeting you attended with Senator Casey. Also clarified at that meeting, was that the Air Force is not treating individual wells with PFOS or PFOA below the EPA LHA levels at former Pease Air Force base.

I assure you the Navy recognizes the importance of this matter and will continue being proactive to ensure the drinking water supplies impacted by Navy activities meet EPA LHA levels. The Navy remains committed to working cooperatively with all involved and will be open and transparent with the local community officials, the water authorities and impacted community members.

Sincerely,


Jennifer Mustain
Acting



HORSHAM WATER AND SEWER AUTHORITY (HWSA)
PFC SURCHARGE
FREQUENTLY ASKED QUESTIONS (FAQs)

Why do the residents have to pay this surcharge? The Authority shares its customers' concern that the new PFC surcharge had to be implemented. Unfortunately, this action was made necessary by the now well-publicized advent of perfluorinated compound (PFC) contamination related to the military installations in our area. Five of the 14 groundwater wells supplying Horsham's public water system had PFC concentrations above the EPA combined lifetime health advisory (HA) of 70 ppt. The Navy is funding treatment systems for these 5 wells. Other sources of the public water supply include an additional 9 groundwater wells and 2 interconnections with neighboring suppliers, Aqua PA and the Forest Park Water Treatment Facility via the North Wales Water Authority (NWWA). PFCs have been detected in all of these sources except the water originating from Forest Park. Although these detected levels have been below the EPA HA, they are certainly of concern to the Authority and Horsham Council on behalf of Horsham residents.

In light of that concern, a short term plan to reduce the average concentration of PFOS and PFOA in the public water system was presented and adopted at a joint public meeting between the Authority Board and Horsham Township Council on June 26, 2016. After a presentation by the Authority of five options and hearing comments and concerns raised by the residents, Council and the Authority Board voted to adopt a plan that involves completing the Navy-funded treatment system work at the wells as noted above, then actively managing the use of remaining wells vs. purchasing additional water from Forest Park to further reduce PFC concentrations in Horsham's public supply with the goal of achieving an average concentration of less than 1 ppt in the public drinking water supply. Because purchasing water costs significantly more than producing it from our own wells, the surcharge is necessary primarily to cover this additional purchased water cost, which is not currently reimbursable by the military.

Why is the military not paying for this cost? The Authority recognizes that the residents did not create this problem, and together with Horsham Township are actively advocating that the military fund all costs associated with the PFC contamination so that residents do not have to bear any of the costs. The Authority has entered into Cooperative Agreements with both the Department of the Navy (Navy) and the National Guard Bureau (NGB) which collectively provide funding for the installation of treatment systems on the five public supply wells as described above, operation of those treatment systems *to remove PFCs to the 70 ppt HA level*, as well as public water connections for over 90 properties with private wells with PFC concentrations exceeding the HA. However, according to the military, the government is not authorized to fund any actions designed to reduce PFC concentrations below the EPA health advisory, a step that both the Authority and Horsham Council felt was necessary in order to make the public water supply as protective as possible of Township residents while the science regarding these contaminants continues to emerge. The Authority has made multiple funding requests of the Department of Defense, Navy, Air Force and National Guard Bureau, and continues to work with state and federal officials toward this end. These efforts will continue, and public participation is encouraged and welcomed.

Why has the Authority adopted a short term plan to further reduce PFC concentrations and thus created a need for a surcharge when the EPA has adopted a lifetime health advisory of 70 ppt? Out of an abundance of caution, in light of concerns as to the evolving nature of the science regarding PFC contamination in drinking water and the chronic, historic consumption in our community in particular, we developed the short term plan as described above. This plan was overwhelmingly supported by the public in attendance at the meeting when the plan was presented. However, the short term plan carries additional costs which are not currently being reimbursed by the military and the military will only fund projects designed to meet the EPA health advisory or other future standards.

Were the residents ever informed of a potential cost to be imposed upon them? Costs of the short term plan, and the fact that those costs are not currently reimbursable, were presented at the June 26, 2017 meeting. The presentation from that meeting is also on Horsham Township and HWSA's websites. A direct mailer was also issued to all public water customers on September 2, 2016.

Didn't the Authority just receive \$10 million in funding from the State and why is that not being used to cover the surcharge? Legislation passed as part of the 2016-2017 state budget process allocates \$10 million in grant funding for projects that install infrastructure to ensure clean drinking water in Horsham after an application and approval process through Pennvest. In accordance with the prescribed deadline, the Pennvest application was completed and submitted to Pennvest on November 1, 2016 for consideration in early 2017. This funding is designated for costs associated only with physical infrastructure. Operating costs, such as carbon change-out, are excluded from eligibility under this funding. The Authority anticipates utilizing these funds to install permanent treatment systems at the interconnection with Aqua, as well as at 5 of the 9 additional public supply wells mentioned above, a new 1.0 million gallon storage tank, an additional interconnection with NWWA, and construction of approximately 2 miles of water mains to make public water service available to properties with private wells with PFC concentrations below the 70 ppt HA. Without this funding, the Authority has estimated that the proposed capital improvements would necessitate at least a 50% increase in water rates.

Will there be any additional funding? HWSA and Horsham Township are actively advocating for funding so that our residents do not have to bear the additional costs associated with removing PFCs below the HA. We believe that if uniform and statewide standards are adopted that scientifically supports a lower level than the EPA HA, the military may expand funding to achieve such Pennsylvania standards. Therefore, we support state and federal efforts to impose a lower regulatory limit for PFCs in drinking water.

HWSA PFC Surcharge FAQs

Page 3

How is this surcharge calculated? The surcharge is proportioned based on the capacity in the water system allocated to each connection. A connection served by a 5/8" water meter represents a single unit of water capacity and is accordingly charged the base surcharge. Nearly all residential properties are served by a 5/8" meter. Larger meter sizes which typically serve commercial properties are allocated multiple units of capacity. For example, a 1" meter is allocated 2 units of capacity, a 1 ½" meter, 5 units of capacity, and so on. Properties served by larger meters are charged the base surcharge times the respective units of capacity allocated to the property. Therefore, while the surcharge is not based specifically on the number of gallons used, the size of the meter serving each connection is the means by which the proportionate share of the costs is allocated among all users of the system.

Will this surcharge be separate and broken down on my bill? Yes, this will be reflected on your bill as a single line item, which will be located above the water section of your bill.

What is this money used for? To support the costs of reducing the average concentration of PFCs in the public water supply below 70 ppt. Such costs are not currently being funded by any outside revenue source.

How long will the surcharge be in effect? We anticipate that the surcharge will be in effect for as long as the short term plan is in effect. This is currently estimated for a period of up to 3 years. Unreimbursed costs of implementing a long term plan to address the PFC contamination will be built into future rate adjustments.

If the Authority gets reimbursed for the costs that make up the surcharge, will I get my money back? If all of the costs which make up the surcharge are reimbursed to the Authority, the surcharge will be "paid back", most likely through credits on future billings. If partial reimbursement of costs is received, the amount of the reimbursement will be proportioned back to our customers in the same proportion on which they were paid.

Besides this surcharge, are my rates also going to go up? The Authority is a non-profit organization. Accordingly, the Authority does not generate profits from the fees charged for our services, or from the new surcharge. Rates are calculated to meet the Authority's routine operating and capital costs and therefore will continue to be adjusted as necessary.

Will updates be provided as to how this money is being used? Yes, we anticipate providing a quarterly accounting of the PFC related costs which will be posted on our website.

To be sure you are receiving all communication and updates regarding your drinking water, be sure to sign up for Horsham Township's email alerts. You can do so by sending an email to water@horsham.org and typing the word "SUBSCRIBE" in the subject line.

CITY OF PORTSMOUTH



PRESS RELEASE

**FOR
IMMEDIATE
RELEASE**

April 8, 2016

Portsmouth Signs Agreement with Air Force to Proceed with Pease Tradeport Well Treatment System Project

PORTSMOUTH, NH – The City of Portsmouth, the Pease Development Authority (PDA) and the United States Air Force are pleased to announce the execution of an agreement to enable an upgrade of the Pease Tradeport water treatment system in order to remove perfluorochemical compounds (PFCs) from water supplied by the Smith, Harrison and Haven Wells.

In May of 2014, PFCs, which are considered contaminants of emerging concern, were discovered in the three drinking water supply wells located on and servicing the Pease Tradeport. Operated by the City of Portsmouth, the Haven Well was taken off-line immediately due to the PFC levels exceeding provisional health advisory levels; the Harrison and Smith Wells, with the approval of regulators, have remained on line as **PFC levels were substantially below provisional health advisory guidelines.**

“We are pleased to have **reached an agreement** that will allow the City to move forward with the **installation of carbon filters for the Harrison and Smith Wells**, and the eventual design of treatment for the Haven Well, a source of water supply that has been off-line for nearly two years,” said Portsmouth City Manager John Bohenko. “The City has pushed for treatment of all Wells since the contamination was first

discovered, and is committed to providing a safe and adequate supply of drinking water to the Pease tenants. I want to thank the Air Force for their cooperation, our Congressional Delegation, and especially Senators Shaheen and Ayotte for their continued assistance in finding a resolution. It is great news for us to be able to move forward with this project.”

Deputy Director of Public Works Brian Goetz commented that “this agreement will get treatment on-line for the operating Harrison and Smith Wells to allow for demonstration of the technology and performance analysis of the system. This information will help our consultant revise the final design parameters for treatment of the Haven Well. We anticipate having the filters in place and operational within six months. Design of the Haven treatment will follow after that. Portsmouth also continues to support the goals of the EPA and DES with regard to aquifer restoration; our work will continue to be in parallel with the work that the Air Force is undertaking to satisfy the EPA’s administrative order.”

This agreement includes the Air Force’s reimbursement to the City for up to \$58,700 for the system piloting and \$831,000 for the filter installation and demonstration project. Additional agreements between the City and the Air Force for design and construction of the Haven Well treatment system are anticipated to be negotiated later in the year.

Questions can be directed to Brian Goetz, Deputy Director of Public Works, at 603-766-1420.



MVD PFC Progress Report and Next Steps

May 26, 2016

Dear MVD Customer/Resident,

As you are no doubt aware, low concentrations of certain perfluorinated chemicals (PFC's) have been detected in the Merrimack Village District (MVD) water system. The MVD is served by groundwater pumped from six (6) wells in sand and gravel deposits. The source of these PFC's is most likely airborne contamination originating from an industry in the northeast portion of Merrimack. The contaminants are then carried by precipitation or runoff into our aquifers. The primary contaminant is perfluorooctanoic acid or PFOA. Lower concentrations of perfluorooctane sulfonate (PFOS) have also been found.

PFC's are extremely stable manmade compounds used in the manufacture of non-stick coatings on pots and pans, water resistant clothing, stain resistant carpets, food packaging and a variety of other household and commercial products. Their stability makes them very persistent in the environment. For more information on PFC's please visit the New Hampshire Department of Environmental Services (DES) website and specifically the "Frequently Asked Questions" section.

The US Environmental Protection Agency (EPA) has just (5/19/16) released a new lifetime health advisory level (HA) of 70 parts per trillion (ppt) for PFOA, PFOS and if they co-occur, the sum of PFOA and PFOS concentrations. Prior to this, the only guidance was establishment of a Provisional Health Advisory (PHA) level of 400 ppt for PFOA and 200 ppt for PFOS for short term acute contact. Due to the increasing occurrence of PFOA and the lack of a federal standard, individual states and/or EPA regions have been setting their own PFOA drinking water standards. EPA Region 2 in New York set an Advisory Level of 100 ppt in connection with drinking water contamination in Hoosick Falls, NY. The State of Maine established a standard of 100 ppt for PFOA in drinking water based on analysis of peer reviewed literature. Based on the NY and ME standards, NHDES had established 100 ppt as the interim level at which they recommend people use bottled water for drinking, cooking and brushing their teeth. Given the new PFOA HA set by EPA, NHDES will be lowering the 100 ppt threshold to 70 ppt.

What Lead to the Current Situation?

PFOA was first detected in MVD well water in 2014 as part of sampling and analysis for the Unregulated Contaminant Monitoring Rule (UCMR). The EPA uses this data to monitor the occurrence of contaminants that are not regulated under the National Primary Drinking Water Regulations, are known or anticipated to occur in public water systems, and which may require regulation. On re-sampling PFOA was below detection in four of the six wells. The data from 2014 and 2015 (in ppt) is summarized in the table on the following page. Note that blanks indicate no sample taken. Given that this was an unregulated contaminant and results were either non-detect or well below the 400 ppt PHA, no action was required.

In late February of 2016, the industry referenced above, which is served by the MVD, notified NHDES of the detection of PFOA at about 30 ppt at four of their interior faucets. This testing was done due to detection of PFOA in water supplies in Hoosick Falls, NY and North Bennington, VT; both of which are near other facilities of the same company. In response, on March 9, 2016 NHDES collected samples from the three operational MVD wells (#2, #4 & #5). The other three wells were off line for scheduled maintenance (#3) or construction activity (#7 & #8). Concentrations ranged from 17 ppt in Well #2 to 90 ppt in Well #4.

PFOA Concentrations (ppt or ng/L) in MVD Wells 2014-2015

Sample Date	Well #2	Well #3	Well #4	Well #5	Well #7	Well #8
4/14/14	15		42*	42*		
4/22/14		BDL				
7/14/14					26*	26*
10/7/14	BDL	BDL	BDL*	BDL*		
6/15/15					20*	20*

*Blended sample (Wells 4&5 or 7&8)

BDL – Below Detection Limit

What Actions Have We Been Taking?

- At their March 21, 2016 meeting the Board of Commissioners authorized our engineering consultant to evaluate both temporary and permanent treatment options for the removal of PFOA from MVD water should this become necessary. The results from this preliminary analysis were presented at the May 16, 2016 Board meeting.
- MVD was represented and took part in public meetings arranged by NHDES in Merrimack and Bedford on March 23, 2016 and March 30, 2016 respectively.
- MVD met several times with the NHDES Commissioner and Division Heads to discuss, among other things, the industry's responsibility to pay for the significant costs that MVD has been incurring for staff time, sampling, analyses, consultants, and potentially in the future, for treatment, if required.
- MVD met with legal counsel and kept them current with on-going developments in the event that a legal remedy is required with the industry.
- MVD has their hydrogeologic consultant evaluating the PFOA contamination.
- MVD met with Senator Ayotte and had discussions with a representative of Senator Shaheen and urged both to apply pressure to EPA to set an enforceable drinking water standard for PFOA which protects the public health.
- Starting on March 31, 2016, MVD and NHDES began weekly PFOA testing of the operational MVD wells. This data can be viewed on the NHDES website under the "Sampling Maps and Data" section. Data can also be seen on water from the MVD system which enters Cabot Preserve, a system run by Pennichuck Water Works but supplied by MVD.
- MVD has been meeting system water demand using a combination of wells with the goal of minimizing the PFOA concentration entering the distribution system. On April 19, 2016, the Iron & Manganese Removal Facility being constructed for Wells #7 & #8 was sufficiently complete to allow use of these wells which have the lowest PFOA concentrations, and now the lowest iron and manganese concentrations. Since that date, system demand has been met primarily with these two wells. Based on recent testing, the concentration of PFOA entering the distribution system from Wells #7 & #8 was 18 ppt and 16 ppt on 4/14/16 and 4/21/16 respectively. As

demands increase going into the summer months, MVD will turn on additional wells as needed to meet demand.

What Actions Will We Take Going Forward?

- MVD will continue to minimize the PFOA entering the distribution system by utilizing the wells with the lowest concentrations.
- MVD will continue weekly sampling of its wells for PFOA.
- MVD will assess levels of PFOA and PFOS in each well to see if treatment is required given the 70 ppt HA level. Based on analysis of results to date, MVD is anticipating that treatment will be required for Wells #4 & #5 but not at the other wells. MVD will work with its consultants to select and design the most appropriate treatment technique for any well where treatment is deemed necessary.
- MVD, either through NHDES's actions, or its own legal remedy, will seek all costs associated with the PFOA contamination or treatment to be paid by the subject industry.
- If needed, MVD will work with Pennichuck Water Works (PWW) to supply supplemental water during design and construction of a treatment plant for Wells #4 & #5 through an existing system interconnection.

We have provided links below for your use in accessing additional information. MVD has always been committed to providing its customers with safe clean drinking water and this commitment continues unabated. Please contact us with any questions or concerns.

MVD Website

<http://www.mvdwater.org/>

NHDES Website

<http://des.nh.gov/organization/commissioner/pfoa.htm>

EPA Website

<https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/perfluorooctanoic-acid-pfoa-perfluorooctyl-sulfonate>

Sincerely yours,

Board of Water Commissioners
Merrimack Village District

Customer Service/Billing Representative II

Finance/HR Director

Merrimack Village District Water Works

2 Greens Pond Road
Merrimack, NH 03054

Phone: (603) 424-9241

Mission Statement
"The Merrimack Village District will develop, operate and maintain our water system in a cost effective manner."

Adopted by the
Board of Commissioners
September 16, 2013

To view PFOA information and results click here:
<http://des.nh.gov/organization/commissioner/pfoa.htm>

May 26, 2016: MVD PFC Progress Report and Next Steps >[read more](#)

PFOA and Wells 4 and 5 update

12-13-16

- Saint Gobain has signed the agreement to fund the preliminary design of a permanent treatment plant for wells 4 and 5. The additional testing that Saint Gobain had requested is partially completed and the remainder will be finished up in January.
- The Pennichuck connection /Emergency booster station is underway and should be operational by mid-January.
- CT Male notified the MVD that the temporary GAC filter unit used in Hoosick Falls is anticipated to be ready in mid-to-late January, and can be shipped to wells 4 and 5 for use while the permanent plant is constructed.
- DHHS is sending out another 500+ letters to MVD customers offering blood testing. Of the original 200 letters that were sent out only 64 residents showed any interest and less than 10 have actually participated in the blood draw as of 12-13-16.

Quick Links

Flushing Schedule

- May 8 – 12, 2017
- April 24-28, 2017
- April 17 – 21, 2017

Approved Budget for Staff-BOC 17-18

Projected Revenue 2006-2018

What is the odd/even water restriction?

The water restriction is a tool to help manage our distribution system. Withdrawing water from the aquifer in a controlled manner allows us to protect against seasonal fluctuations. The year round odd/even restriction limits the days on which outside watering is allowed, based on whether your street address is an odd or even number and the date is an odd or even number

Treatment Plant Environmental Review

2016 Annual Report

2016 CCR Report

MVD's 2011 By-Laws

INFORMATION ABOUT THE PROPOSED TENNESSEE GAS PIPELINE VIA THE NASHUA REGIONAL PLANNING COMMISSION'S WEBSITE

ATTENTION: Homeowners, Contractors and Utilities Co.

BEFORE YOU DIG

MVD is NOT a member of the Dig Safe System!

Please fill out the online form for every location.

If an EMERGENCY please call 603 - 424 - 9241 x100

Please Note: The Merrimack Village District Water Works has NO job openings at this time.

Merrimack Village District Water Works
2 Greens Pond Road
Merrimack, NH 03054

Phone: (603) 424-9241
Fax: (603) 424-0563

Office Hours: Monday – Friday / 8:00am – 4:30pm

Site Map | Disclaimer

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OLF Coupeville Site Inspection

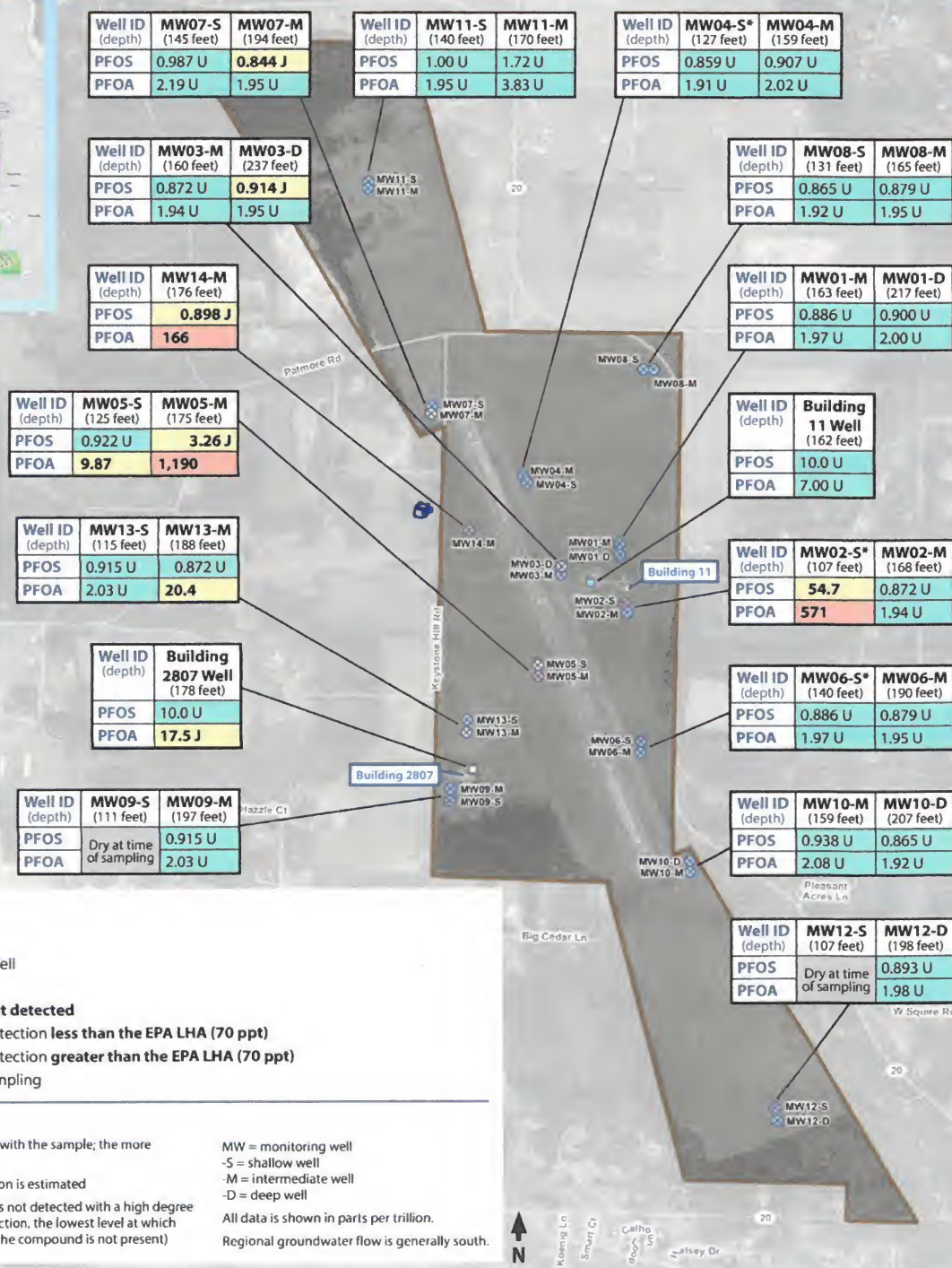
Additional information can be found online at
www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

For updates as more information becomes available, visit
<http://go.usa.gov/xkMBc>

If you have specific questions, please contact
PAO_feedback@navy.mil (email) or 360-396-1030 (voicemail)



OLF Coupeville Drinking Water Sampling Areas



AFFF aqueous film forming foam
EPA U.S. Environmental Protection Agency
LHA lifetime health advisory

OLF Outlying Landing Field
PFAS per- and polyfluoroalkyl substances
PFOA perfluorooctanoic acid

PFOS perfluorooctane sulfonate
ppt parts per trillion

Island County Parcel Viewer Map



December 8, 2016

Plats

Condo

Plat

Parcels

City Limits

Quarter Sections

Roads

Highway

Collector and Arterial

Local

Private

- 1-Keystone Well
- 2-Ft. Casey Wells
- 3-Water Treatment Plant

1:36,112



Island County
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

September 19, 2017

OPEN LETTER TO: Geri Forbes, Chief Executive Officer, Whidbey Health
Whidbey General Hospital Board of Commissioners

RE: WGH's PFC Contaminated Water

I appeared before the Whidbey Health's (WH) Board of Commissioners at its April 10, 2017 meeting with information and requests concerning the need for a filtration system to remove perfluorinated chemicals (PFCs) that leaked from the Navy's Outlying Field to contaminate the Town of Coupeville's water. I also presented documentation to indicate that PFC's other than those identified by the Navy and the Town, were likely to be in the hospital's water.

I attended the hospital's August 14, 2017 Board of Commissioners meeting to present additional documentation regarding the PFC contamination and to complain about the failure of WH's General Counsel to provide promised information about actions planned or taken to install a PFC filtration system. At that meeting, I was led to believe that such a system had been installed. In fact, the Board Chair, Ron Wallin, interrupted my comments about the need for a PFC treatment system to tell me that my concerns had been addressed. He then directed me to George Senerth, the Hospital's Ex. Dir. of Facilities and Engineering, for details.

I had a brief discussion with Mr. Senerth in the presence of a news reporter. I asked for more information about the system, making it clear that I was talking about filtration with activated carbon designed to remove PFCs. I was told that a filtration system had been installed and that a "pre-filter" and "post filter" analysis of hospital water indicated its effectiveness.

After WH's August meeting, I attempted to arrange a meeting between concerned citizens and the hospital staff to see the PFC removal system. Mr. Senerth never returned my subsequent phone calls and emails. I then received an email from WGH's General Counsel stating that the filtration system could not be seen for "security" reasons.

The truth of the matter was revealed when the hospital responded to my public records request of August 17 and stated, "We do not maintain a system-wide water filter that filters all water coming into the hospital. The only hospital-wide system that we have is a water softening system, but that is not designed to be, nor does it function as a filtration system."

At best, WH's August 14 misrepresentation about the existence of a PFC filtration system reflects an appalling lack of understanding and concern about a legitimate public health issue.

In response to my public Records Request, WH produced a June 27 “pre filter” and a July 11 “post-filter” PFC analysis report. (see attached).

If there is no system-wide filtration system, then where were these samples taken?

Why were different laboratories using different detection limits used to analyze the pre and post filter samples?

Missing from WH’s response to my public records requests, is the communication to the laboratory identifying the requirements for the pre and post filter testing the hospital requested. Provide the missing document and those questions might be answered.

Wherever the pre and post-filter samples were taken, the results of analysis do not show the “filtered” water to be free of PFCs. The PFHxS found at 27.8 parts per trillion (ppt) in the “pre-filter” sample would not have been detected in the “post-filter” sample because a 30 ppt method reporting limit was used for the post-filter analysis. (see attached)

On April 11, 2017, the day after I expressed my concerns to you and your board about the PFCs in the water, including PFHxS and PFHpA, you communicated with Coupeville Mayor Molly Hughes concerning an agreeable public position. It focused only on PFOA and PFOS for which EPA has “guidelines.” No reference is made to other PFCs. Had you asked about other PFCs known to be in the Town’s water, you might have learned that the Town had been finding them since November of 2016. Apparently, this is information you never asked for and the Town of Coupeville never volunteered.

The Mayor suggested wording which states, “Based on current state guidelines. We believe the water used by patients and staff at Whidbey Health is safe to drink.” The absence of guidelines for PFCs other than PFOA and PFOS is not an indication that they are safe in drinking water. It only means that there is insufficient information to determine what if any health impacts could result from exposure.

Understand that levels of PFC’s in the hospitals water that have yet to reach what you refer to as a “level of concern,” could increase. An increase is possible because of the new and higher levels of PFC contamination found at the Navy’s Outlying Field. Additionally, the Town’s unprotected Fort Casey well, whose “clean” water is currently blended with contaminated water from the Keystone well, is at risk of contamination.

The Town’s Testing for PFC’s

A November 1, 2016 Coupeville News Release stated that the Town had tested its drinking water for three PFAS chemicals and found only one (PFOA).¹ Shortly thereafter, the Town's Mayor gave inquiring citizens a copy of a laboratory report reflecting the Town's testing for the three PFAS chemicals. Town has since produced a more complete version of the November of 2016 laboratory report showing it had actually tested for the six PFCs identified in EPA's Unregulated Contaminate Monitoring Rule. Four were found (PFOA, PFHpA, PFBS, PFHxS).

The differing versions of laboratory reports were based on analysis of the same set of water samples, by the same laboratory on the same day. The report showing the results of the Town's testing of 6 PFCs was not made public until August of 2017 in response to a Public Records Act request. Also produced were results of testing for the six PFCs done in March and June of 2017. The reports of analysis for all six PFC's showed PFOA, PFHpA, PFBS, PFHxS to be in the Town's water. (see attached)

According to Coupeville's Mayor, the November 2016 results of the testing for all six chemicals had not been received when the town issued November 2016 news release was issued. Even so, the Town did not later reveal to the general public, or apparently to WGH, the true extent of the Navy's PFC contamination. As of August 22, 2017, the Island County Health Department representative with the responsibility of interfacing with the Navy and other regulatory officials on the PFC issues was unaware that the Town had tested for and found the additional PFCs in its drinking water.²

Citizen Testing Also Finds PFCs in Coupeville and WH Water

In May of 2017, a Coupeville family had their drinking water tested for six PFCs, including PFHxS and PFHpA.³ The family's water was analyzed by a laboratory the Navy has used and performed in accordance with EPA's approved method for PFC analysis. PFOA was found at 30 ppt, PFHxS at 32.8, PFHpA at 4.58 ppt, and PFBS at 7.68 ppt. The analysis was done twice. The results were consistent with those found in samples taken at five other locations served by Coupeville's water system. PFOS was found at two of the five other locations.

According to Whidbey Water Keepers, a sample of the hospital's water was also tested. The results were said to be "consistent" with the finding of PFCs, including PFHxS and PFHpA, at the Coupeville residences. Despite repeated requests that it do so, WWK has yet to release the actual report of analysis of WGH's water.

In response to my public Records Request, WH produced "pre filter" and "post-filter" PFC analysis reports of its water. Different laboratories using different detection limits were used to analyze the pre and post filter samples. Contrary to WGH's representations to me, these reports do not show WGH's water to be free of PFCs. For instance, the PFHxS found at 27.8 ppt in the WH's June 27 "pre-filter"

sample would not have been found in the July 11 “post-filter” sample because a 30 ppt Method Reporting Limit was used for the post-filter analysis. (see attached)

Health Concerns

According to the Agency for Toxic Substances and Disease Registry (ATSDR) studies indicate PFCs can, “affect the developing fetus and child, including possible changes in growth, learning, and behavior. In addition, they may decrease fertility and interfere with the body’s natural hormones, increase cholesterol, affect the immune system, and even increase cancer risk.”

There are also concerns about the presence of PFCs in breast milk and umbilical cord blood, and the fact that levels found in the blood of infants and children are generally higher than in adults. Studies, related to child exposures, suggest they can:

- reduce immune response to certain vaccinations⁴
- increase the risk of infection (higher exposures to PFOA, PFOS and PFHxS tended to increase episodes with fever and coughing). ⁵
- Children with higher blood levels of PFHxS were found to have an increased chance of attention-deficit/hyperactivity disorder (ADHD), and preteens with higher levels of six PFASs tend to be more impulsive.⁶
- PFCs, including PFHxS, affect the function of sex hormone receptors.⁷

States are also concerned about PFHpA and PFHxS. Colorado included PFHpA along with PFOA and PFOS in its combined health advisory guidance level of 70 ppt. (EPA does not include PFHpA). Connecticut’s “Action Level” above which the state can take action, is 70 ppt for the sum of PFOS, PFOA, PFNA, PFHxS, and PFHpA. (EPA only considers the sum of PFOA and PFOS)

Minnesota’s Drinking Water “guidance value” is 35 ppt for PFOA and 27 for PFOS. Because PFHxS remains in the body longer than PFOS and “appears to be similar in toxicity as PFHxS”, the same guidance value for PFOS is recommended for PFHxS.

It takes, 2 to 4 years to get rid of half the PFOA in your body, and 5 to 6 years for PFOS. 8 to 9 years for PFHxS. Given how long the Navy’s PFCs have been in the aquifer, it is possible, even likely, that a significant number of people have elevated levels of PFCs in their blood.

After PFCs were discovered in water leaking from a former Air Force Base in New Hampshire, almost 1600 potentially exposed people had their blood tested

(366 children, 31 adolescents, 1181 adults). Elevated levels of PFOA, PFOS and PFHxS were found compared to national averages, with “significantly” higher concentrations found in children aged 11 years and younger. PFHxS is highest PFAS found in the blood.⁸

It is no surprise that PFHxS was found at higher levels than PFOA in the citizen sampling of Coupeville’s water because it was found at higher levels than PFOA at the OLF.

Newfound Pollution at OLF Increases Risks

On March 4, 2017 the Navy tested 27 monitoring wells it had installed at the OLF. More sites and higher levels of contamination in the aquifer were discovered. PFCs were found in 8 of the monitoring wells. PFOA was found up to 1,190 ppt, PFOS up to 54.7, and PFBS up to 473 ppt.⁹ The wells were not monitored for PFHxS or PFHpA.

It is now clear that these chemicals are in the Coupeville’s water – and that concentrations may increase. If so, they are likely to increase in the hospital’s unprotected water.

People come to this hospital, with its new \$50 million dollar wing, to get well and have children, not to drink water contaminated with chemicals that accumulate in the body and are linked to a host of health affects.

The fact that a PFC filtration system has not been installed means that unknowing patients, employees and visitors have been drinking water supplied by the Town of Coupeville containing PFCs that they have not been told about. Keeping them in the dark does not protect them.

Sincerely,

Rick Abraham

Town of Coupeville's Nov 2016 Testing
Treatment Plant Distribution Point.
Version shared with public in December 2016

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste D • Spokane WA 99202 • (509) 838-3909 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TOWN OF COUPEVILLE
Address: 1500 N STATE ST. STE. 200
BELLINGHAM, WA 98225
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-005	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM		
Client Sample ID	COCPCFC05	Sampling Time	11:50 AM	Extraction Date	11/18/2016		
Matrix	Drinking Water	Sample Location					
Comments							
Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-005				
Surrogate Standard	Method	Percent Recovery		Control Limits	
13C-PFDA	EPA 537	83.9		70-130	
13C-PFHxA	EPA 537	88.6		70-130	

Sample Number	161114025-006	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC06:07	Sampling Time	12:15 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0270	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-006			
Surrogate Standard	Method	Percent Recovery	Control Limits	
13C-PFDA	EPA 537	84.4	70-130	
13C-PFHxA	EPA 537	82.1	70-130	

Certifications held by Anatek Labs: ID, EPA ID00013, AZ C01, FL NELAP E87893, ID ECL013, MT CBR10023, NM ID00013, NV ID00013, OR ID00001-002, WA C595
Certifications held by Anatek Labs: WA, EPA WA00169, ID WA00169, WA C595, MT Cert0095, FL NELAP E871099

Tuesday, December 06, 2016

Page 3 of 6

Town of Coupeville's Nov 2016 Testing
Treatment Plant Distribution Point
Response to Public Records Request in August 2017

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email: moscow@anateklabs.com
504 E. Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email: spokane@anateklabs.com

Client: TOWN OF COUPEVILLE Batch #: 161114025
Address: P.O. BOX 725 Project Name: DW 537 TESTING
COUPEVILLE, WA 98239
Attn: MOLLY HUGHES

Analytical Results Report

Sample Number	161114025-006	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPC06/07	Sampling Time	12:15 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	0.0184	ug/L	0.03	11/28/2016	TGT	EPA 537	J
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0270	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-006				
Surrogate Standard		Method	Percent Recovery	Control Limits	
13C-PFDA		EPA 537	84.4	70-130	
13C-PFHxA		EPA 537	82.1	70-130	

Sample Number	161114025-007	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPC08	Sampling Time	12:16 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-007				
Surrogate Standard		Method	Percent Recovery	Control Limits	
13C-PFDA		EPA 537	93.8	70-130	
13C-PFHxA		EPA 537	89.4	70-130	

Certifications held by Anatek Labs ID: EPA ID00013 AZ 0701 FLINELAP1 E871093 ID ID00013 MT CERT0028 NM DO0013 NV ID00013 OR ID000301 U02 WA C595
Certifications held by Anatek Labs WA: EPA WA00159 ID WA00169 WA C595 MT CERT0055 FLINELAP1 E871093

Tuesday, December 13, 2016

Page 4 of 6

Town of Coupeville's **June 27, 2017** Testing – Well 108 Next to the OLF and Treatment Plant Distribution Point.

Response to Public Records Request in August 2017

Anatek Labs, Inc.

1282 Alturas Drive • Moscow ID 83843 • (208) 883 2839 • Fax (208) 882 9246 • email moscow@anateklabs.com
504 F Sprague Ste D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: JOSEPH GROGAN

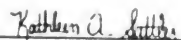
Batch #: 170628047
Project Name: EPA 537

Analytical Results Report

Sample Number	170628047-001	Sampling Date	6/27/2017	Date/Time Received	6/28/2017	1:00 PM		
Client Sample ID	1-08	Sampling Time	7:30 AM	Extraction Date	6/29/2017			
Matrix	Drinking Water	Sample Location						
Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PF	ND	ug/L	0.025	0.09	6/30/2017	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	0.00919	ug/L	0.005	0.01	6/30/2017	TGT	EPA 537	J
Perfluorohexanesulfonic acid - P	0.0528	ug/L	0.005	0.03	6/30/2017	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.005	0.02	6/30/2017	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	0.04	6/30/2017	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0543	ug/L	0.005	0.02	6/30/2017	TGT	EPA 537	

Sample Number	170628047-002	Sampling Date	6/27/2017	Date/Time Received	6/28/2017	1:00 PM		
Client Sample ID	DIST	Sampling Time	7:30 AM	Extraction Date	6/29/2017			
Matrix	Drinking Water	Sample Location						
Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PF	ND	ug/L	0.025	0.09	6/30/2017	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.005	0.01	6/30/2017	TGT	EPA 537	
Perfluorohexanesulfonic acid - P	0.0295	ug/L	0.005	0.03	6/30/2017	TGT	EPA 537	J
Perfluorononanoic acid - PFNA	ND	ug/L	0.005	0.02	6/30/2017	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	0.04	6/30/2017	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0305	ug/L	0.005	0.02	6/30/2017	TGT	EPA 537	

Authorized Signature


Kathleen A. Sattler, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry weight basis unless otherwise noted.

Certifications held by Anatek Labs, Inc.: EPA ID#000113, AZ ID#01, IL INE (LAP) E871093, IN ID#000113, MI CERT#0008, NM ID#000113, NV ID#000113, OR ID#000113, WA C#595.
Certifications held by Anatek Labs, Inc.: EPA ID#000113, WA C#595, ID WAC#189, WA C#595, MI CERT#0008, IL INE (LAP) E871093.

Friday, July 07, 2017

Page 1 of 1

Results of Coupeville Resident's May 2, 2017 Testing
Coupeville Drinking Water.

Sample ID: 36					Modified EPA Method 537				
Client Data		Sample Data		Laboratory Data					
Name	Whidbey Water Keepers	Matrix	Drinking Water	Lab Sample	1700549-15	Date Received	03-May-2017	8:51	
Project		Sample Size	0.263 L	QC Batch	BTE0020	Date Extracted	05-May-2017	13:19	
Date Collected	30-Apr-2017 15:15			Date Analyzed	09-May-17 21:44	Column	BEH C18		
Analyte	Conc. (ng/L)	RL	MDL	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
PFBS	8.44	1.90	0.850		IS 13C3-PFBS	48.7	60 - 150	H	
PFHpA	5.35	1.90	0.280		IS 13C4-PFHpA	47.0	60 - 150	H	
PFHxS	36.4	1.90	0.449		IS 18O3-PFHxS	48.5	60 - 150	H	
PFOA	30.6	1.90	0.309		IS 13C2-PFOA	40.0	60 - 150	H	
PFOS	ND	1.90	0.383		IS 13C8-PFOS	39.9	60 - 150	H	
PFNA	ND	1.90	0.384		IS 13C5-PFNA	41.9	50 - 150	H	

MDL - Method detection limit
RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
Results reported to MDL
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

Analysis Data from Whidbey Water Keepers. Testing results of six of residential sites on Coupeville's water system. Concentrations are in parts per trillion (ppt)

Chemical	Site 1	Site 2	Site 3	Site 4 analyzed twice	Site 5	Site 6
PFBS	8.38	1.75	7.98	7.68/8.44	8.84	8.19
PFHpA	5.49	0.858	5.5	4.58/5.35	5.85	5.98
PFHxS	38	3.05	40.3	32.8/36.4	37	39.2
PFOA	26.6	10	25	29.4/30.6	27.1	28.6
PFOS	0.484	1.15	ND	ND/ND	ND	ND
PFNA	ND	ND	ND	ND/ND	ND	ND

Anatek Labs, Inc.

Batch #: 170629026
Project Name: WHIDBEY GENERAL
HOSPITAL

Page 1 of 1

Whidbey General Hospital
Water Received from Coupeville AFTER HOSPITAL FILTRATION
July 11, 2017



Burlington, WA	Corporate Laboratory	1000 10th Street SE	Everett, WA 98201	800.747.5237	www.edge-analytical.com
Bellingham, WA	Microbiology	800 10th Street SE	Everett, WA 98201	800.747.5237	
Portland, OR	Microbiology	800 10th Street SE	Everett, WA 98201	800.747.5237	
Corvallis, OR	Microbiology	800 10th Street SE	Everett, WA 98201	800.747.5237	

Page 1 of 1

UNREGULATED CONTAMINANT MONITORING REGULATION REPORT

Client Name: Diamond B-WGH
3436 Airport Dr
Bellingham, WA 98225

Reference Number: 17-16834
Project: PFAs

System Name
System ID Number
Facility ID
Facility Name
Sample Type
Sample Purpose: Investigative or Other
Sample Point ID
County

Field ID: WGH-Post Filter
Lab Number: 38170
Collect Date: 7/11/17 14:00
Date Received: 7/12/17
Report Date: 8/14/17
Sampled By: Craig Cheadle
Sampler Phone:
Approved By: fm
Authorized By:

Lawrence J Henderson, PhD
Director of Laboratories, Vice President

EPA#	COMPOUND	VALUE	UNITS	METHOD	MRL	BATCH	DATE ANALYZED	LAB CODE	ANALYST
Perfluorinated Compounds									
	PERFLUOROOCTANESULFONIC ACID (PFOS)	ND	ug/L	537	0.04	ANATEX 170731	07/31/17	WA00097	tdt
	PERFLUOROOCTANOIC ACID (PFOA)	ND	ug/L	537	0.02	ANATEX 170731	07/31/17	WA00097	tdt
	PERFLUORONONANOIC ACID (PFNA)	ND	ug/L	537	0.02	ANATEX 170731	07/31/17	WA00097	tdt
	PERFLUOROHXANESULFONIC ACID (PFHXS)	ND	ug/L	537	0.03	ANATEX 170731	07/31/17	WA00097	tdt
	PERFLUOROHEPTANOIC ACID (PFHPA)	ND	ug/L	537	0.01	ANATEX 170731	07/31/17	WA00097	tdt
	PERFLUOROBUTANESULFONIC ACID (PFBS)	ND	ug/L	537	0.09	ANATEX 170731	07/31/17	WA00097	tdt

NOTES

A Result of "ND" indicates that the compound was not detected above the Lab's Method Reporting Limit - MRL.
MRL is the method reporting limit.
EPTDS is entry point to the distribution system.
J - Estimated value

If you have any questions concerning this report contact Lawrence J Henderson at the above phone number.

² Rick Abraham, Maryon Atwood, and Cate Andrews meeting with Doug Kelly, Hydrologist, Island County Health.

³ The independent sampling of drinking water was facilitated by Whidbey Water Keepers.

⁴ *Journal of Immunotoxicology* Volume 10, 2013 - *Issue 4*, Pre-natal exposure to perfluoroalkyl substances may be associated with altered vaccine antibody levels and immune-related health outcomes in early childhood Berit Granum, Line S. Haug, Ellen Namork, Solvor B. Stølevik, Cathrine Thomsen, Ingeborg S. Aaberge,
<http://dx.doi.org/10.3109/1547691X.2012.755580>

⁵ Scholarly articles for • PFAS exposure and increase risk of infection. (higher exposures to PFOA, PFOS and PFHxS

⁶ Exposure to Polyfluoroalkyl Chemicals and Attention Deficit ...

<https://www.ncbi.nlm.nih.gov> »; Stein, CR, and DA Savits. 2011. Serum perfluorinated compound concentration and attention deficit/hyperactivity disorder in children aged 5 to 18 years. *Environmental Health Perspectives*
<http://dx.doi.org/10.1289/ehp.1003538>.

⁷ Perfluorinated compounds affect the function of sex hormone receptors.

<https://www.ncbi.nlm.nih.gov/pubmed/23764977>

⁸ Presentation, PFAS Testing at Pease, Highly Fluorinated Compounds – Social and Scientific Discovery
Northeastern University, June 14, 2017, Andrea Amico, Alayna Davis, Michelle Dalton; State of New Hampshire
Department of Health and Human Services Division of Public Health Services, Pease PFC Blood Testing Program: April
2015 – October 2015

⁹ OLF Coupeville Site Inspection Fact Sheet and Poster, Navy Open House May 2017



DEPARTMENT OF THE NAVY

NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5090
Ser N00/3215
September 19, 2017

The Honorable Molly Hughes
Mayor of Coupeville
PO Box 725
Coupeville, WA 98239

Dear Restoration Advisory Board Participants and Members:

SUBJECT: RESTORATION ADVISORY BOARD MEETING FOR NAVAL AIR STATION
WHIDBEY ISLAND SCHEDULED FOR OCTOBER 19, 2017

The next Environmental Restoration Advisory Board (RAB) meeting is scheduled for Thursday, October 19, 2017, from 5 to 7 p.m. at the NAS Whidbey Island Chief Petty Officers' Club, 1080 W Ault Field Road, Oak Harbor, WA 98278.

Several topics will be discussed; including, the State Petroleum Cleanup Program, Military Munitions Response Program, and the CERCLA Program (including work at the Area 6 landfill and drinking water PFAS investigation).

Please direct any RAB-related inquiries to Mr. Mike Welding, NAS Whidbey Island Public Affairs Officer, at (360) 257-2286 or michael.welding@navy.mil.

Sincerely,

A handwritten signature in black ink, appearing to read "G. C. Moore", is written over a circular stamp.

G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosure: 1. Draft Minutes of the May 15, 2017, RAB Meeting

NAVAL AIR STATION WHIDBEY ISLAND

RESTORATION ADVISORY BOARD

DRAFT MEETING MINUTES

May 15, 2017

Oak Harbor, Washington

Attendees:

Captain Geoffrey Moore	Naval Air Station Whidbey Island (NASWI) Commanding Officer
Commander Allen Willey	NASWI Public Works Officer
Meianie Bengtson	NASWI Environmental Program Director
Mike Welding	NASWI Public Affairs Officer
Kendra Leibman	NAVFAC Northwest
Kristeen Bennett	NAVFAC Northwest
Mark Wicklein	NAVFAC Northwest
Tom Decosta	Navy
Doug Kelly	Island County Public Health
Maddie Rose	Citizen
Pat and Tom Martinez	Citizen
George Peterson	WASTEWISE
Mary Ellen Mozes	Citizen
Sandra Caldwell	WA Dept of Ecology
Ron Johnson	WA Dept of Ecology
Steve Erickson	Whidbey Environmental Action Network
Jill Wood	Island County Public Health
Celine Servatius	Naval Hospital Oak Harbor
David A. Macys	Island County Community Health Advisory Board
Marianne Edain	Whidbey Environmental Action Network
Dave Jasman	Citizen
Arnie Peterschmidt	City Of Oak Harbor Public Works
Kathy Lester	Citizen
Ann Brett	Citizen
Martha Yount	Citizen
Donald Rockwood	Citizen
Joel Servatius	City of Oak Harbor

The meeting opened at 5:04 p.m. by Ms. Melanie Bengtson welcoming everyone.

Captain Geoffrey Moore delivered opening remarks regarding the purpose of the Restoration Advisory Board and the future of the RAB as Mr. Ed Oetken, community co-chair for about 23 years, is retiring and the recent finding of environmental impacts from use of firefighting foams.

Introductions were delivered by going around the table and room. Ms. Bengtson briefly reviewed the proposed agenda for the meeting and the RAB process and purpose.

The minutes of the last RAB meeting (August 18, 2016) were voted on and approved.

The RAB charter is currently in the process of being updated. The drafted version will need to be reviewed and approved by the co-chairs and the RAB members. The final version will be approved by Captain Moore.

Ms. Bennett presented an update on the following petroleum sites at NASWI: Fuel Farms 1, 2, 3, and 4.

- While installing the A-3 monument at the northwest corner of Ault Field Road and Langley Boulevard, an unknown underground storage tank (UST) was encountered. A preliminary investigation was conducted and primarily diesel with a little bit of gasoline was identified. Work is still being performed and a limited source removal action will probably be conducted in the next fiscal year.
- Remedial actions have been completed for the fuel farms and they are in long-term monitoring (LTM).
- A five-year review is being conducted on all of our petroleum sites including Fuel Farms 1 through 4 and an old site on the seaplane base. Public comment is being taken during this process.
- The overall cleanup goal of the State Petroleum Program is to achieve unlimited use and unrestricted exposure (UUUE). As part of the LTM, once we have four consecutive quarters of no detections above the cleanup level, the individual monitoring wells can be decommissioned. Based on current data, it is anticipated another three wells will be eligible for decommissioning at the end of this fiscal year.

Ms. Bennett presented an update on the NASWI Munitions Response Program:

- During the August 2016 RAB Meeting, closure of a couple of sites was discussed.
- An overview of four sites using a map was provided:
 - former Lake Hancock Target Range (LHTR)
 - Aviation Fleet Gunnery School including Mobile Tower Turret Range and Machine Gun Ranges B and C. (Machine Gun Range A is still used)
 - Polnell Point was used as an ordnance disposal area.
 - Crest Harbor Practice Range was used primarily in WWII and 1950s for underwater demolition of munitions. It is still currently used as a training area for Explosive Ordnance Disposal (EOD) so we will likely remove from program.
- The Record of Decision (ROD) has been signed for LHTR and the remedial action will be implemented including limited surface removal and land use controls (LUCs), including periodic inspections, fencing, and signage. Limited surface removal will be conducted around the target area and along the beach because of pristine wetlands and historical natural landmark designation. The Navy previously conducted cleanups in early to mid-1970s and up to 14 tons of munitions debris was removed.
- There are no current plans for additional work at the Aviation Fleet Gunnery School including Mobile Tower Turret Range and Machine Gun Ranges B and C. (Machine Gun Range A is still used) The current remedy is LUCs because the property is still Navy owned.

Ms. Bennett introduced CERCLA Site Area 6 and mentioned her and Ms. Kendra Leibman both work on different issues for Area 6.

- Area 6 is the former current landfill that is southeast of Ault Field.
- Ms. Bennett manages the long-term management and part of the remedial action objective groundwater monitoring for Area 6, and also for Area 31, which is the former runway fire school. Area 31 is no longer under active remedy.
- Solvents were historically disposed of in Area 6 landfill.
- The ROD was established in 1993 including installing an engineered cap (completed 1995-1996) and installing and operating a pump and treat (P&T) system with air stripping (operating since 1996).
- In 2003, 1,4-dioxane was discovered at Area 6. The current treatment system only treats volatile organic compounds (VOCs). During the last five years, several technologies have been evaluated to optimize the existing treatment system. Advanced oxidation has looked the most promising to treat both VOCs and 1,4-dioxane. A Focused Feasibility Study (FFS) was prepared to document all the different remedial alternatives and select the preferred alternative (advanced oxidation) for 1,4-dioxane. The proposed remedy is to refurbish the existing western plant and change the treatment technology from air stripping to advanced oxidation. A new plant to treat the south plume is also being evaluated. The FFS is in draft and aiming to finalize this summer. Once the FFS is finalized, a Proposed Plan will be prepared and it will be available for public comment. Additionally, a ROD Amendment will be prepared to address 1,4-dioxane and aiming to finalize in the winter.
- On-site sampling for per- and polyfluoroalkyl substances (PFAS) in Area 6 will be conducted this summer.
- Off-site sampling (downgradient of Area 6) for 1,4-dioxane and vinyl chloride (VC) will be conducted this summer. PFAS will be sampled as well if they are detected in on-site samples. This data will be used to aid in the remedial design for the new south oxidation plant.

Ms. Bennett presented an update on CERCLA Sites Area 1 (former Beach Landfill) and Area 52 (former Jet Engine Test Cell).

- Area 52 was petroleum site and monitoring has been completed.
- The Navy repaired most of the sea wall fronting Area 1 in 2016 and completed it in March 2017. The purpose of the repair was to keep the landfill contained as it encounters significant erosion. Based on the setting, seawall repair will likely be conducted every three to five years.

Ms. Bennett discussed the CERCLA Implementation Process which includes investigation, cleanup, and long-term management (LTMgt). LTMgt is instituted when contaminants are left in place above UUUE criteria. Part of the five-year review process is using the LTM data to evaluate the effectiveness of the remedy. The effectiveness of the remedy is also evaluated on a yearly basis.

A citizen asked Ms. Bennett about the remedy for the fuel farms. The remedy depends on where you are (setting) and what fuel farm. Free product removal is still being conducted in a few wells. The primary remedy is monitored natural attenuation (MNA) and it is a long process. Free product removal has historically been conducted once a year although we are planning on adding monthly removal events during the winter to hopefully increase product removal.

A citizen asked Ms. Bennett how sea level rise and managed retreat have been factored into the landfill seawall (Area 1). Ms. Bennett stated she believes it will be addressed in next five-year review for the CERCLA sites (FY19). Mr. Mark Wicklein added the engineering design of the erosion control system may need to be more robust in the future to account for the rise in seawater.

A citizen asked how the contaminants at Camp Mugu in California compare to the contaminants found here. Ms. Leibman stated as we become aware of chemicals we are addressing them as the science improves and mentioned the new group of chemicals called PFAS. Ms. Leibman asked to table the question until after the PFAS discussion.

Ms. Leibman discussed PFAS investigation.

- PFAS, also known as PFCs (perfluorinated chemicals) are in AFFF (aqueous film-forming foam). Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS), which are two of the PFAS compounds, have been the most extensively produced and studied. In 2009, EPA established Provisional Health Advisory (PHA) for PFOS and PFOA. Historically, PFASs in AFFF have been used by the Navy to help fight fires at airfields, ships and other places where petroleum-product based fires are a risk. In May 2016, the EPA set a lifetime health advisory (LHA) for PFOA and PFOS, which are two of the PFAS compounds.
- In June 2016, the Navy started to evaluate what sites could be impacted by Navy's use of AFFF. The Navy identified sites at Ault Field and the Outlying Landing Field (OLF) Coupeville that may have known and suspected releases of AFFF. In November 2016, the Navy started sampling off-site private drinking water wells and two phases of sampling have been conducted near Ault Field and OLF Coupeville.
- Two rounds of public meetings have been conducted.
- A citizen asked about the Navy providing the sampling results to the public. Ms. Leibman stated the Navy has posted final sampling analysis plans on our website and additionally there is a regular weekly e-mail distribution list available. The Navy is notifying everyone of exceedances and detections above and below the lifetime health advisory, and non-detections as well. The Navy is not publicly providing maps with specific concentrations and locations because that is private information for the individual well owners.
- At OLF Coupeville, seven wells have exceedances of the lifetime health advisory, and two detections were below the lifetime health advisory, and all the rest were non-detects.
- In regards to the CERCLA process with PFAS compounds, the preliminary assessment and site inspection (PA/SI) step will also be conducted, which is part of the investigation phase. The Navy is providing bottled water to well users with concentrations above the LHA and that is considered an emergency removal action and is our first priority. The next steps are determining the extent and conducting periodic monitoring.
- A citizen asked how many dump sites have been identified off Ault Field. Ms. Bennett stated Sites 1, 2, 3, and 6 are currently active in the program.
- Groundwater results from Phase 2 sampling will be discussed at public meetings on May 31st and June 1st. Information about the current status of evaluating long-term solutions for people that are currently on bottled water will be presented. The next steps of investigation at Ault Field and OLF to delineate these compounds will be discussed.
- A citizen asked if the definition of on-site wells meant they are on military property. Ms. Leibman stated that the 27 wells have been installed at OLF Coupeville, which is military property. Off-site wells may become necessary to delineate the extent of contaminants.

- A citizen asked where the 1,4-dioxane plant would be placed. Ms. Leibman stated the exact location is being evaluated. It will be on Navy property on the south end. A citizen mentioned a map in the newspaper indicated that the plume is on to private property. Ms. Leibman stated the Navy is planning on conducting additional off-site delineation sampling summer 2017.
- A citizen asked what the contaminant plume depths are for PFAS at OLF Coupeville. Ms. Leibman stated PFAS compounds have been identified at depths between 90 to 220 feet below ground surface (bgs). The shallow groundwater unit is present at 90 feet bgs. A citizen stated there are some very shallow aquifers and asked if the 'much more shallow aquifers' were tested. Ms. Leibman stated some wells installed in the shallow aquifer did not have enough water to sample.
- A citizen asked to what extent PFAS material absorbs to soils. The different PFAS compounds behave somewhat differently but they tend to move very quickly in groundwater and transfer back and forth in soil and groundwater.
- A citizen asked where documents would be available as they will not be retained by the library. Ms. Leibman stated Ms. Leslie Yuenger is the contact person for access to the Administrative Record.

Ms. Bengtson discussed the RAB and membership.

- The RAB member is a voluntary position that would include regularly scheduled RAB meeting attendance, participation in a constructive and respectful manner, and providing appropriate advice and comments on restoration issues to help guide decision-makers. The RAB member purpose is to represent and communicate the community's interest in this program.
- Whidbey formed the first RAB in the Navy.
- The Navy is looking for new RAB members.
- Some of our local and state agencies like Island County Health Department (ICHD) have attended the RAB meetings and have provided good information. Our regulatory partners are not really members of the RAB meetings because they are the decision-makers ultimately.
- RAB applications will be reviewed and recommended to Captain Moore for final decision approval.
- A citizen asked how many RAB members there are and how many of those are community representatives. Currently Mr. Doug Kelly and Mr. Ed Oetken (community member) are the main RAB members. Captain Moore stated we want to revitalize the program as Mr. Ed Oetken is retiring after more than 22 years as co-chair. The Navy would like to get a larger and more active and representative RAB.

Ms. Bengtson opened the floor to community comments and questions.

- A citizen commented that they appreciate the Navy's public outreach effort. It was suggested that besides the local newspapers and the Whidbey Island Facebook page that notices are placed on the webpages for the Oak Harbor Chamber of Commerce and the Coupeville Chamber of Commerce.

Ms. Bennett stated hope to finalize the RAB membership and bring a draft of the new charter by the next RAB meeting. A RAB webpage is in the process of being set-up. Mr. Wicklein stated the Navy's desire for RAB members to be involved in finishing the charter. Ms. Bennett discussed increasing the frequency of RAB meetings – potentially quarterly. Ms. Bennett asked for feedback regarding the new venue and new evening time.

Mr. Wicklein reviewed action items for the next meeting including:

- more discussion at the RAB on history and what we've done in the past for cleanup
- Better mic system/layout
- Better room layout/venue
- RAB Members working group meeting prior to next RAB meeting
- Laser pointer
- Name tags
- Acronym cheat sheet

Captain Moore asked if the regulators had any comments. Ms. Sandra Caldwell commented she was pleased with the presentation and the Navy addressing PFAS. Ecology provides regulatory support for non-CERCLA or the non-EPA-related cleanup compounds like petroleum and munitions. Ecology can help answer questions regarding non-CERCLA related compounds.

Captain Moore closed meeting by thanking everyone for their engagement.

Meeting adjourned at 6:50 p.m.

Acronym List:

NASWI - Naval Air Station Whidbey Island
ICPH - Island County Public Health
WEAN - Whidbey Environmental Action Network
RAB – Restoration Advisory Board
NAVFAC – Naval Facilities Engineering Command
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as “Superfund”
RPM – Remedial Project Manager
UST – Underground Storage Tank
AST – Aboveground Storage Tank
LTM – Long Term Monitoring
UUUE – Unlimited use and unrestricted exposure
LHTR - Lake Hancock Target Range
EOD - Explosive Ordnance Disposal
LUCs - Land use controls
ROD – Record of Decision
VOCs – Volatile Organic Compounds
P&T system - pump and treat system
FFS – Focused Feasibility Study
LTMtg – Long Term Management
MNA – Monitored Natural Attenuation
FY – Fiscal Year
OLF - Outlying Landing Field
AFFF – Aqueous film-forming foam
PHA – Provisional Health Advisory
LHA – Lifetime Health Advisory
PFOA - Perfluorooctanoic Acid
PFOS - Perfluorooctyl Sulfonate
PFCs - perfluorinated chemicals
PFAS – Per- and polyfluoroalkyl substances
VC – vinyl chloride
PA – Preliminary Assessment
SI – Site Inspection
PA/SI - preliminary assessment and site inspection
bgs - below ground surface

Areas:

- Area 6 is the former current landfill that is southeast of Ault Field
- Area 31 is the former runway fire school
- Area 1 is the former Beach Landfill
- Area 52 is the former Jet Engine Test Cell

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT
POST TREATMENT DISTRIBUTION POINT
434 WANAMAKER ROAD COUPEVILLE, WA 98239
WI-CV-1RW27-0318

Date Collected: 3/23/2018

Time Collected: 09:05

Preliminary Results Provided: May 23, 2018

RECEIVED

MAY 31 2018

TOWN OF COUPEVILLE

Below are the preliminary test results for your drinking water sampled on March 23, 2018. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	37.8	70
PFOS and PFOA (cumulative) ¹	37.8	70

¹ Only detected values of PFOS and PFOA are summed.

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	8.95 J	Not applicable
Perfluorohexanoic acid (PFHxA)	20.9	Not applicable
Perfluoroheptanoic acid (PFHpA)	5.82 J	Not applicable
Perfluorohexane sulfonate (PFHxS)	33.1	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Sample ID: WI-CV-1RW27-0318

EPA Method 537

Client Data			Laboratory Data							
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800572-03	Column:	BEH C18			
Project:	CTO-4041 Navy Clean NASWI	Date Collected:	23-Mar-18 09:05	Date Received:	27-Mar-18 09:39					
Location:	DW									
Analyte	Conc. (ng/L.)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	8.95	0.436	4.92	9.84	J	B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFHxA	20.9	0.857	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFHpA	5.82	0.524	4.92	9.84	J	B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFHxS	33.1	0.408	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFOA	37.8	1.06	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFNA	ND	1.42	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFOS	ND	1.02	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFDA	ND	1.26	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
MeFOSAA	ND	2.99	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
EtFOSAA	ND	1.90	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFUnA	ND	0.251	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFDoA	ND	0.937	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFTrDA	ND	0.928	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
PFTeDA	ND	0.765	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	88.1	70 - 130		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I	
13C2-PFtDA	SURR	105	70 - 130		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I	
d5-EtFOSAA	SURR	95.0	70 - 130		B8C0184	29-Mar-18	0.254 L	03-Apr-18 11:23	I	

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-UCL - Lower control limit - upper control limit
Results reported to the DL.

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT
 WELL 287
 COUPEVILLE, WA 98239
 WI-CV-1RW60-0318
 Date Collected: 3/23/2018
 Time Collected: 08:45
 Preliminary Results Provided: May 23, 2018

RECEIVED
 MAY 31 2018
 TOWN OF COUPEVILLE

Below are the **preliminary** test results for your drinking water sampled on March 23, 2018. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	26.1	70
PFOS and PFOA (cumulative) ¹	26.1	70

¹ Only detected values of PFOS and PFOA are summed.

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	7.17 J	Not applicable
Perfluorohexanoic acid (PFHxA)	17.0	Not applicable
Perfluoroheptanoic acid (PFHpA)	4.49 J	Not applicable
Perfluorohexane sulfonate (PFHxS)	28.0	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Sample ID: WI-CV-1RW60-0318

EPA Method 537

Client Data			Laboratory Data		
Name:	CH2M Hill	Matrix:	Lab Sample:	1800572-05	Column: BEH C18
Project:	CTO-4041 Navy Clean NASWI	Date Collected:	Date Received:	27-Mar-18 09:39	
Location:	DW				

Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	7.17	0.438	4.94	9.90	J	B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFHxA	17.0	0.862	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFHpA	4.49	0.527	4.94	9.90	J	B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFHxS	28.0	0.411	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFOA	26.1	1.07	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFNA	ND	1.42	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFOS	ND	1.03	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFDA	ND	1.27	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
MeFOSAA	ND	3.01	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
EtFOSAA	ND	1.91	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFUnA	ND	0.252	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFDoA	ND	0.942	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFTrDA	ND	0.933	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
PFTeDA	ND	0.769	4.94	9.90		B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
Labeled Standards	% Recovery	Limits			Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
I3C2-PFHxA	92.4	70 - 130				B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
I3C2-PFDA	103	70 - 130				B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I
d5-EtFOSAA	74.4	70 - 130				B8C0184	29-Mar-18	0.253 L	03-Apr-18 11:48	I

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-UCL - Lower control limit - upper control limit
Results reported to the DL.

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

1 ng/L = 1 ppt
nanogram(s) part(s) per
per liter trillion

The detection limit (DL) is the lowest level at which the laboratory can reliably "see" that this compound is present.

The limit of detection (LOD) is the lowest level at which the laboratory can reliably "see" this compound is **not** present.

The limit of quantitation (LOQ) is the lowest level at which the laboratory can reliably measure this compound with a known degree of confidence and accuracy.

This section contains quality control information used by the data validator.

Sample ID: WF-RW02-0317		EPA Method 537			
Client Data		Laboratory Data			
Name:		Lab Sample:		Date Received:	29-Mar-2017 9:21
Project:		QC Batch:	B7C0165	Date Extracted:	30-Mar-2017 7:50
Date Collected:		Date Analyzed:	04-Apr-17 15:37	Column:	BEH C18
Location:	WF-RW02				
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers
PFBS	ND	3.02	8.65	17.3	
PFOA	6.53	3.93	8.65	17.3	J
PFOS	ND	2.64	8.65	17.3	
		Labeled Standard		%R	I.C.L.-UCL Qualifiers
		SUR 13C2-PFHxA		103	70 - 130
		SUR 13C2-PFDA		117	70 - 130

LCL-UCL - Lower control limit - upper control limit
Results reported to DL

When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers
Only the linear isomer is reported for all other analytes

The result for PFBS:

PFBS was not detected in the sample.

This is reported as "ND" (Non-Detect).

The result for PFOA:

PFOA was detected in the sample at 6.53 ng/L (6.53 ppt).

The "J" qualifier means that the PFOA was detected but the *amount* detected is estimated.

The result for PFOS:

PFOS was not detected in the sample.

This is reported as "ND" (Non-Detect).

There is not a health advisory level for PFBS; therefore, no action is currently being taken based on this result. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration Program.

This column identifies the data qualifiers that apply to a given result. Possible laboratory qualifiers are:

"J" (Estimated Value) - indicates the value reported for the analyte is below the LOQ and was detected. The value reported is considered estimated.

"B" (Blank) - this compound was also detected in the method blank.

"D" (Diluted Sample) - sample result was taken from a diluted sample.

The result for PFOS:

PFOS was detected in the sample at 0.022 µg/L (0.022 ppb or 22 ppt).

The "J" qualifier means that the result detected is an estimated level.

The result for PFOA:

PFOA was detected in the sample at 0.015 µg/L (0.015 ppb or 15 ppt).

The "M" qualifier means that laboratory staff had to further verify the value the instrument produced.

The result for PFBS:

PFBS was not detected in the sample.

The "U" qualifier means that the compound was not detected with a high degree of confidence at the LOD.

1 µg/L = 1 ppb 1 ppb = 1,000 ppt
microgram(s) per liter part(s) per billion part(s) per trillion
0.010 µg/L = 0.010 ppb = 10 ppt

This column identifies the data qualifiers that apply to a given result.

The limit of quantitation (LOQ) is the lowest level at which the laboratory can reliably measure this compound with a known degree of confidence and accuracy.

The limit of detection (LOD) is the lowest level at which the laboratory can reliably "see" this compound is not present.

The detection limit (DL) is the lowest level at which the laboratory can reliably "see" that this compound is present.

FORM 1 LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.:
SDG No.:
Client Sample ID: WI-CV-1116 Lab Sample ID:
Matrix: Water Lab File ID:
Analysis Method: 537 Date Collected: 11/28/2016 16:59
Extraction Method: 537 Date Extracted: 12/02/2016 07:42
Sample wt/vol: 267.2 (mL) Date Analyzed: 12/07/2016 22:25
Con. Extract Vol.: 1.00 (mL) Dilution Factor: 1
Injection Volume: 10 (µL) GC Column: Acquity ID: 2.1 (mm)
% Moisture: GPC Cleanup: (Y/N) N
Analysis Batch No.: 140946 Units: µg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.022 J		0.056	0.045	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.015 J M		0.028	0.022	0.0088
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10 U		0.13	0.10	0.045
CAS NO.	SURROGATE	%REC	Q	LIMITS		
STL00993	13C2 PFHxA	101		70-130		
STL00996	13C2 PFDA	114		70-130		

* There is not a health advisory level for PFBS; therefore, no action is currently being taken based on this result. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration Program.

The result for PFOA:

PFOA was detected in the sample at 0.022 µg/L (0.022 ppb or 22 ppt).

The "J" qualifier means that the result detected is an estimated level.

The result for PFOA:

PFOA was detected in the sample at 0.015 µg/L (0.015 ppb or 15 ppt).

The "M" qualifier means that laboratory staff had to further verify the value the instrument produced.

The result for PFBS:

PFBS was not detected in the sample.

The "U" qualifier means that the compound was not detected with a high degree of confidence at the LOD.

1 µg/L = 1 ppb
microgram(s) per liter
part(s) per billion
1 ppb = 1,000 ppt
part(s) per trillion
0.010 µg/L = 0.010 ppb = 10 ppt

This column identifies the data qualifiers that apply to a given result.

The limit of quantitation (LOQ) is the lowest level at which the laboratory can reliably measure this compound with a known degree of confidence and accuracy.

The limit of detection (LOD) is the lowest level at which the laboratory can reliably "see" this compound is not present. The detection limit (DL) is the lowest level at which the laboratory can reliably "see" that this compound is present.

FORM 1 LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento
SDG No.:
Client Sample ID: WI-CV-1116
Matrix: Water
Analysis Method: 537
Extraction Method: 537
Sample wt/vol: 267.2 (mL)
Con. Extract Vol.: 1.00 (mL)
Injection Volume: 10 (µL)
% Moisture:
Analysis Batch No.: 140946
Job No.:
Lab Sample ID:
Lab File ID:
Date Collected: 11/28/2016 16:59
Date Extracted: 12/02/2016 07:42
Date Analyzed: 12/07/2016 22:25
Dilution Factor: 1
GC Column: Acquity ID: 2.1 (mm)
GPC Cleanup: (Y/N) N
Units: µg/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.022 J		0.056	0.045	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.015 J M		0.028	0.022	0.0088
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10 U		0.13	0.10	0.045
CAS NO.	SURROGATE	%REC	Q	LIMITS		
STL00993	13C2 PFHxA	101		70-130		
STL00996	13C2 PFDA	114		70-130		

* There is not a health advisory level for PFBS; therefore, no action is currently being taken based on this result. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration Program.

Approach for Aquifer Testing at the Keystone Hill Well, Coupeville, Washington

PREPARED FOR: Kendra Leibman,
NAVFAC Northwest RPM

PREPARED BY: CH2M

DATE: September 25, 2017

CONTRACT NUMBER: CLEAN 9000 – CTO 4041

Introduction

The Town of Coupeville on Whidbey Island in Washington State operates a municipal drinking water well (Keystone Hill well) on the west side of Outlying Field (OLF), Whidbey Naval Air Station. The Keystone Hill well currently operates at 150 gpm for 21 to 23 hours per day. To satisfy increasing demand, the Town of Coupeville is considering the possibility of increasing the well's extraction rate up to approximately 300 gpm. However, PFAS has recently been detected in groundwater samples collected from the Keystone Hill well at concentrations near the EPA lifetime health advisory level and the Navy identified three groundwater monitoring wells at OLF that contain PFAS above EPA's lifetime health advisory level, one of which is less than 1000 feet southeast of the Keystone Hill well. The Town of Coupeville is concerned that increasing extraction rates may result in higher PFAS concentrations in water produced by the Keystone Hill well. NAVFAC and its consultant, CH2M, propose performing an aquifer test to better quantify aquifer hydraulic properties of the aquifer in the immediate vicinity of the Keystone Hill well.

Objectives

The results of the aquifer test along with installation of additional monitoring wells in the area are expected to provide additional information to meet the following objectives:

- Provide improved delineation of the hydraulic capture zone of the Keystone Hill well.
- Provide insight as to whether increased pumping at the Keystone Hill well could potentially result in increased PFAS concentrations (full evaluation related to this objective will require data from the pending/additional investigation of PFAS contamination at OLF).
- Improve delineation of PFAS concentrations in groundwater in the vicinity of the Keystone Hill well.

Approach

The following provides a summary of the approach and requirements for of the proposed aquifer test:

- CH2M plans to construct observation wells at two locations near the Keystone Hill well (Figure 11-1). Two adjacent wells will be drilled at each location, one screened in the surficial aquifer and one screened in the underlying confined aquifer, similar to the Keystone Hill well. Both of the proposed observation well locations are located on OLF property; the first location is 150 feet due east of the Keystone Hill well, and the other location is approximately 260 feet northeast of the Keystone Hill well, just inside the OLF boundary.
- CH2M plans to collect groundwater samples from the four new observation wells, the Keystone Hill well, and five existing monitoring wells (MW-04M, MW-04S, MW-07M, MW-07S, and MW-14M) to record PFAS concentrations in the Keystone Hill well and surrounding monitoring wells before and after the test.
- CH2M plans to instrument the four new observation well pairs, the Keystone Hill well, and five existing monitoring wells (MW-04M, MW-04S, MW-07M, MW-07S, and MW-14M) with pressure transducers and data loggers to monitor groundwater levels over a 1 week long testing period.
- CH2M proposes to install a totalizer and data logger at the Keystone Hill well so accurate measurements of flow rates and drawdown can be recorded.
- CH2M proposes that the Keystone Hill well be shut down for up to approximately 4 hours prior to the start of the test. Initial test data for the Keystone Hill well indicate that groundwater levels in the vicinity of the Keystone Hill well should recover to a static level within 4 hours (Robinson Noble, 2008). No further shutdowns will be required during the test.
- After the initial 4-hour shutdown, the Town of Coupeville may return to normal operation of the Keystone Hill well.

References

Robinson and Noble. 2008. Town of Coupeville Keystone Hill Well Construction and Testing Report. Tacoma, Washington. April, 2008.

appropriate QC measures are documented demonstrating the CAL standard stability.

8. SAMPLE COLLECTION, PRESERVATION, AND STORAGE

8.1 SAMPLE BOTTLE PREPARATION

- 8.1.1 Samples must be collected in a 250-mL polypropylene bottle fitted with a polypropylene screw-cap.
- 8.1.2 The preservation reagent, listed in the table below, is added to each sample bottle as a solid prior to shipment to the field (or prior to sample collection).

Compound	Amount	Purpose
Trizma®	5.0 g/L	buffering reagent and removes free chlorine

8.2 SAMPLE COLLECTION

- 8.2.1 The sample handler must wash their hands before sampling and wear nitrile gloves while filling and sealing the sample bottles. PFAA contamination during sampling can occur from a number of common sources, such as food packaging and certain foods and beverages. Proper hand washing and wearing nitrile gloves will aid in minimizing this type of accidental contamination of the samples.
- 8.2.2 Open the tap and allow the system to flush until the water temperature has stabilized (approximately 3 to 5 min). Collect samples from the flowing system.
- 8.2.3 Fill sample bottles, taking care not to flush out the sample preservation reagent. Samples do not need to be collected headspace free.
- 8.2.4 After collecting the sample, cap the bottle and agitate by hand until preservative is dissolved. Keep the sample sealed from time of collection until extraction.

8.3 FIELD REAGENT BLANKS (FRB)

- 8.3.1 A FRB must be handled along with each sample set. The sample set is composed of samples collected from the same sample site and at the same time. At the laboratory, fill the field blank sample bottle with reagent water and preservatives, seal, and ship to the sampling site along with the sample bottles. For each FRB shipped, an empty sample bottle (no preservatives) must also be shipped. At the sampling site, the sampler must open the shipped FRB and pour the preserved reagent water into the empty shipped sample bottle, seal and label this bottle as the FRB. The FRB is shipped back to the laboratory along with the samples and analyzed to ensure that PFAAs were not introduced into the sample during sample collection/handling.

- 8.3.2 The same batch of preservative must be used for the FRBs as for the field samples.
- 8.3.3 The reagent water used for the FRBs must be initially analyzed for method analytes as a LRB and must meet the LRB criteria in Section 9.3.1 prior to use. This requirement will ensure samples are not being discarded due to contaminated reagent water rather than contamination during sampling.

- 8.4 **SAMPLE SHIPMENT AND STORAGE** – Samples must be chilled during shipment and must not exceed 10 °C during the first 48 hours after collection. Sample temperature must be confirmed to be at or below 10 °C when the samples are received at the laboratory. Samples stored in the lab must be held at or below 6 °C until extraction, but should not be frozen.

NOTE: Samples that are significantly above 10° C, at the time of collection, may need to be iced or refrigerated for a period of time, in order to chill them prior to shipping. This will allow them to be shipped with sufficient ice to meet the above requirements.

- 8.5 **SAMPLE AND EXTRACT HOLDING TIMES** – Results of the sample storage stability study (Table 10) indicated that all compounds listed in this method have adequate stability for 14 days when collected, preserved, shipped and stored as described in Sections 8.1, 8.2, and 8.4. Therefore, water samples should be extracted as soon as possible but must be extracted within 14 days. Extracts must be stored at room temperature and analyzed within 28 days after extraction. The extract storage stability study data are presented in Table 11.

9. QUALITY CONTROL

- 9.1 QC requirements include the Initial Demonstration of Capability (IDC) and ongoing QC requirements that must be met when preparing and analyzing Field Samples. This section describes the QC parameters, their required frequencies, and the performance criteria that must be met in order to meet EPA quality objectives. The QC criteria discussed in the following sections are summarized in Tables 12 and 13. These QC requirements are considered the minimum acceptable QC criteria. Laboratories are encouraged to institute additional QC practices to meet their specific needs.
- 9.1.1 **METHOD MODIFICATIONS** – The analyst is permitted to modify LC columns, LC conditions, evaporation techniques, internal standards or surrogate standards, and MS and MS/MS conditions. Each time such method modifications are made, the analyst must repeat the procedures of the IDC. **Modifications to LC conditions should still produce conditions such that co-elution of the method analytes is minimized to reduce the probability of suppression/enhancement effects.**

Town of Coupeville and Fort Casey Treatment Plant
434 Wanamaker Road
WI-CV-1RW60-0117 (Well 2-87)
01/18/2017
09:31
Preliminary Results Provided March 27, 2017
Validated Results Provided April 24, 2017

Below are the **validated** test results for your drinking water sampled on January 18, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation no results or qualifier flags have changed for the test results listed below.

The Navy's Environmental Restoration Program analyzed for three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy reports only these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Jan 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	49 U	70
Perfluorooctanoic acid (PFOA)	24 U	70
PFOS and PFOA (cumulative) ¹	Not Detected	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Jan 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	110 U	Not applicable

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

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Lab Name: TestAmerica Sacramento	Job No.: 320-25119-1
SDG No.:	
Client Sample ID: WI-CV-1RW60-0117	Lab Sample ID: 320-25119-3
Matrix: Water	Lab File ID: 24JAN2017A6A_046.d
Analysis Method: 537	Date Collected: 01/18/2017 09:31
Extraction Method: 537	Date Extracted: 01/21/2017 11:49
Sample wt/vol: 246.4(mL)	Date Analyzed: 01/25/2017 13:18
Con. Extract Vol.: 1(mL)	Dilution Factor: 1
Injection Volume: 10(uL)	GC Column: Acquity ID: 2.1(mm)
% Moisture:	GPC Cleanup: (Y/N) N
Analysis Batch No.: 147664	Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.049	U	0.061	0.049	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.024	U	0.030	0.024	0.0096
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.048

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	100		70-130
STL00996	13C2 PFDA	104		70-130

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-002	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCFPC02	Sampling Time	11:00 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	0.00801	ug/L	0.01	11/28/2016	TGT	EPA 537	J
Perfluorohexanesulfonic acid - PFHxS	0.0367	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0558	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	94.9	70-130
13C-PFHxA	EPA 537	98.0	70-130

Sample Number	161114025-003	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCFPC03	Sampling Time	10:40 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-003		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	87.5	70-130
13C-PFHxA	EPA 537	88.4	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Town of Coupeville and Fort Casey Treatment Plant
466 Keystone Hill Road
WI-CV-1RW24-1216 (Well 487)
12/06/2016
09:45
Preliminary Results Provided January 23, 2017
Validated Results Provided April 24, 2017

Below are the **validated** test results for your drinking water sampled on December 6, 2016. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation no results or qualifier flags have changed for the test results listed below.

The Navy's Environmental Restoration Program analyzed for three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy reports only these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	45 U	70
Perfluorooctanoic acid (PFOA)	22 U	70
PFOS and PFOA (cumulative) ¹	Not Detected	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	100 U	Not applicable

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

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FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-24178-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW24-1216 Lab Sample ID: 320-24178-4
 Matrix: Water Lab File ID: 15DEC2016A6A_012.d
 Analysis Method: 537 Date Collected: 12/06/2016 09:45
 Extraction Method: 537 Date Extracted: 12/09/2016 18:59
 Sample wt/vol: 267.4 (mL) Date Analyzed: 12/15/2016 12:59
 Con. Extract Vol.: 1.00 (mL) Dilution Factor: 1
 Injection Volume: 10 (uL) GC Column: Acquity ID: 2.1 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 142223 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.045		0.056	0.045	0.014
335-67-1	Perfluorooctanoic acid (PFCA)	0.022		0.028	0.022	0.0088
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10		0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	94		70-130
STL00996	13C2 PFDA	91		70-130

Town of Coupeville and Fort Casey Treatment Plant
 466 Keystone Hill Road
 WI-CV-1RW25-1216 (Well 106)
 12/06/2016
 10:00
 Preliminary Results Provided January 23, 2017
 Validated Results Provided April 24, 2017

Below are the **validated** test results for your drinking water sampled on December 6, 2016. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation no results or qualifier flags have changed for the test results listed below.

The Navy's Environmental Restoration Program analyzed for three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy reports only these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	44 U	70
Perfluorooctanoic acid (PFOA)	22 U	70
PFOS and PFOA (cumulative) ¹	Not Detected	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	100 U	Not applicable

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

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FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-24178-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW25-1216 Lab Sample ID: 320-24178-6
 Matrix: Water Lab File ID: 15DEC2016A6A_014.d
 Analysis Method: 537 Date Collected: 12/06/2016 10:00
 Extraction Method: 537 Date Extracted: 12/09/2016 18:59
 Sample wt/vol: 271.7(mL) Date Analyzed: 12/15/2016 14:25
 Con. Extract Vol.: 1.00(mL) Dilution Factor: 1
 Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 142223 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044		0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFCA)	0.022		0.028	0.022	0.0087
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10		0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA			70-130
STL00996	13C2 PFDA	92		70-130

Town of Coupeville and Fort Casey Treatment Plant
466 Keystone Hill Road
WI-CV-1RW26-1216 (Well 190)
12/06/2016
10:12
Preliminary Results Provided January 23, 2017
Validated Results Provided April 24, 2017

Below are the **validated** test results for your drinking water sampled on December 6, 2016. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation no results or qualifier flags have changed for the test results listed below.

The Navy's Environmental Restoration Program analyzed for three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy reports only these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	44 U	70
Perfluorooctanoic acid (PFOA)	22 U	70
PFOS and PFOA (cumulative) ¹	Not Detected	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	100 U	Not applicable

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

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FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-24178-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW26-1216 Lab Sample ID: 320-24178-8
 Matrix: Water Lab File ID: 15DEC2016A6A_018.d
 Analysis Method: 537 Date Collected: 12/06/2016 10:12
 Extraction Method: 537 Date Extracted: 12/09/2016 18:59
 Sample wt/vol: 270.3(mL) Date Analyzed: 12/15/2016 16:24
 Con. Extract Vol.: 1.00(mL) Dilution Factor: 1
 Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 142412 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.022	0.0087
375-13-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	100		70-130
STL00996	13C2 PFDA	97		70-130

Town of Coupeville and Fort Casey Treatment Plant
 466 Keystone Hill Road
 WI-CV-1RW27-1216 (Post-Treatment)
 12/06/2016
 10:24
 Preliminary Results Provided January 23, 2017
 Validated Results Provided April 24, 2017

Below are the **validated** test results for your drinking water sampled on December 6, 2016. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation no results or qualifier flags have changed for the test results listed below.

The Navy's Environmental Restoration Program analyzed for three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy reports only these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	47 U	70
Perfluorooctanoic acid (PFOA)	38	70
PFOS and PFOA (cumulative) ¹	38	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	110 U	Not applicable

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

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FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-24178-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW27-1216 Lab Sample ID: 320-24178-10
 Matrix: Water Lab File ID: 15DEC2016A6A_020.d
 Analysis Method: 537 Date Collected: 12/06/2016 10:24
 Extraction Method: 537 Date Extracted: 12/09/2016 18:59
 Sample wt/vol: 254.4(mL) Date Analyzed: 12/15/2016 17:23
 Con. Extract Vol.: 1.00(mL) Dilution Factor: 1
 Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 142412 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047		0.059	0.047	0.015
335-6/-1	Perfluorooctanoic acid (PFOA)	0.038		0.029	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	112		70-130

Town of Coupeville & Ft. Casey Treatment Plant
466 Keystone Hill Road
WI-CV-1RW23-1216 (Well 108)
12/06/2016
09:21
Preliminary Results Provided January 23, 2017
Validated Results Provided April 24, 2017

Below are the validated test results for your drinking water sampled on November 29, 2016. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation, "M" flags were removed from the final qualifier. "M" has no impact on the quality of the data from manual integrations.

The Navy's Environmental Restoration Program analyzed three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy only reports these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Nov 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	44 U	70
Perfluorooctanoic acid (PFOA)	22 U	70
PFOS and PFOA (cumulative) ¹	Not Detected	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Nov 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	100 U	Not applicable

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-24178-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW23-1216 Lab Sample ID: 320-24178-1
 Matrix: Water Lab File ID: 15DEC2016A6A_009.d
 Analysis Method: 537 Date Collected: 12/06/2016 09:21
 Extraction Method: 537 Date Extracted: 12/09/2016 18:59
 Sample wt/vol: 273.4(mL) Date Analyzed: 12/15/2016 11:30
 Con. Extract Vol.: 1.00(mL) Dilution Factor: 1
 Injection Volume: 10(uL) GC Column: Acquity ID: 2.1(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 142223 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFCA)	0.055		0.027	0.022	0.0086
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	93		70-130
STL00996	13C2 PFDA			70-130

Town of Coupeville and Ft. Casey Treatment Plant (POC: Joe Grogan)
 434 Wanamaker Road
 WI-CV-1RW85-0217 (Well #1-87)
 3/3/2017
 13:38
 Preliminary Results Provided April 10, 2017
 Validated Results Provided June 12, 2017

Below are the **validated** test results for your drinking water sampled on March 3, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation no results or qualifier flags have changed for the test results listed below.

The Navy's Environmental Restoration Program analyzed for three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy reports only these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	50 U	70
Perfluorooctanoic acid (PFOA)	25 U	70
PFOS and PFOA (cumulative) ¹	Not Detected	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	120 U	Not applicable

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26309-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW85-0217 Lab Sample ID: 320-26309-1
 Matrix: Water Lab File ID: 2017.03.09_537A_020.d
 Analysis Method: 537 Date Collected: 03/03/2017 13:38
 Extraction Method: 537 Date Extracted: 03/07/2017 17:54
 Sample wt/vol: 239(mL) Date Analyzed: 03/09/2017 11:06
 Con. Extract Vol.: 1.00(mL) Dilution Factor: 1
 Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 154110 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.050	U	0.063	0.050	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.025	U	0.031	0.025	0.0099
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.12	U	0.15	0.12	0.050

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	95		70-130
STL00996	13C2 PFDA	102		70-130

Town of Coupeville and Ft. Casey Treatment Plant (POC: Joe Grogan)
434 Wanamaker Road
WI-CV-1RW86-0217 (Well #3-87)
3/3/2017
14:15
Preliminary Results Provided April 10, 2017
Validated Results Provided June 12, 2017

Below are the **validated** test results for your drinking water sampled on March 3, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation no results or qualifier flags have changed for the test results listed below.

The Navy's Environmental Restoration Program analyzed for three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy reports only these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	53 U	70
Perfluorooctanoic acid (PFOA)	27 U	70
PFOS and PFOA (cumulative) ¹	Not Detected	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	120 U	Not applicable

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

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Lab Name: TestAmerica Sacramento Job No.: 320-26309-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW86-0217 Lab Sample ID: 320-26309-3
 Matrix: Water Lab File ID: 2017.03.09_537A_022.d
 Analysis Method: 537 Date Collected: 03/03/2017 14:15
 Extraction Method: 537 Date Extracted: 03/07/2017 17:54
 Sample wt/vol: 226.3(mL) Date Analyzed: 03/09/2017 11:15
 Con. Extract Vol.: 1.00(mL) Dilution Factor: 1
 Injection Volume: 2(uL) GC Column: GeminiC18 3x100 ID: 3(mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 154110 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.053	U	0.066	0.053	0.017
335-67-1	Perfluorooctanoic acid (PFOA)	0.027	U	0.033	0.027	0.010
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.12	U	0.15	0.12	0.053

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	88		70-130
STL00996	13C2 PFDA	94		70-130

Town of Coupeville and Ft. Casey Treatment Plant (POC: Joe Grogan)
434 Wanamaker Road
WI-CV-1RW87-0217 (Well #3A)
3/3/2017
14:49
Preliminary Results Provided April 10, 2017
Validated Results Provided June 12, 2017

Below are the **validated** test results for your drinking water sampled on March 3, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Based upon the completion of data validation no results or qualifier flags have changed for the test results listed below.

The Navy's Environmental Restoration Program analyzed for three per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation, which include PFOA, PFOS, and Perfluorobutanesulfonic acid (PFBS). The Navy reports only these PFAS because these are the only three for which the EPA has established human health exposure information. PFOA and PFOS are the only PFAS that EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

The Navy also reports PFBS in the lab reports because this compound has health effects information that can be used to evaluate potential impact in the Navy's Environmental Restoration Program. If the EPA sets a health advisory for PFBS in the future, then the Navy will evaluate necessary actions to take based on the health advisory.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	52 U	70
Perfluorooctanoic acid (PFOA)	26 U	70
PFOS and PFOA (cumulative) ¹	Not Detected	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutanesulfonic acid (PFBS)	120 U	Not applicable

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

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Lab Name: TestAmerica Sacramento Job No.: 320-26309-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW87-0217 Lab Sample ID: 320-26309-5
 Matrix: Water Lab File ID: 2017.03.09_537A_024.d
 Analysis Method: 537 Date Collected: 03/03/2017 14:49
 Extraction Method: 537 Date Extracted: 03/07/2017 17:54
 Sample wt/vol: 230 (mL) Date Analyzed: 03/09/2017 11:24
 Con. Extract Vol.: 1.00 (mL) Dilution Factor: 1
 Injection Volume: 2 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 154110 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.052	U	0.065	0.052	0.017
335-67-1	Perfluorooctanoic acid (PFOA)	0.026	U	0.033	0.026	0.010
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.12	U	0.15	0.12	0.052

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	99		70-130
STL00996	13C2 PFDA	100		70-130

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: JOSEPH GROGAN

Batch #: 170329059
Project Name: 537
PWS #: 155509

Analytical Results Report

Sample Number	170329059-001	Sampling Date	3/28/2017	Date/Time Received	3/29/2017 1:55 PM
Client Sample ID	DIST	Sampling Time	2:00 PM	Extraction Date	4/3/2017
Matrix	Drinking Water	Facility ID		Sample Point ID	I
Sample Location		Comments			

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	4/4/2017	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	< 0.005	ug/L	0.01	4/4/2017	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	0.0292	ug/L	0.03	4/4/2017	TGT	EPA 537	J
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	4/4/2017	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.04	4/4/2017	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0362	ug/L	0.02	4/4/2017	TGT	EPA 537	

Surrogate Data

Sample Number	170329059-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	86.0	70-130
13C-PFHxA	EPA 537	83.6	70-130

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: JOSEPH GROGAN

Batch #: 170329059
Project Name: 537
PWS #: 155509

Analytical Results Report

Sample Number	170329059-002	Sampling Date	3/28/2017	Date/Time Received	3/29/2017 1:55 PM
Client Sample ID	1-08	Sampling Time	1:40 PM	Extraction Date	4/3/2017
Matrix	Drinking Water	Facility ID		Sample Point ID	I
Sample Location		Comments			

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	4/4/2017	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	0.00900	ug/L	0.01	4/4/2017	TGT	EPA 537	J
Perfluorohexanesulfonic acid - PFHxS	0.0570	ug/L	0.03	4/4/2017	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	4/4/2017	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.04	4/4/2017	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0642	ug/L	0.02	4/4/2017	TGT	EPA 537	

Surrogate Data

Sample Number	170329059-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	93.0	70-130
13C-PFHxA	EPA 537	90.6	70-130

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: JOSEPH GROGAN

Batch #: 170329059
Project Name: 537
PWS #: 155509

Analytical Results Report

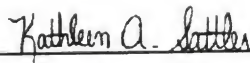
Sample Number	170329059-003	Sampling Date	3/28/2017	Date/Time Received	3/29/2017 1:55 PM
Client Sample ID	2-87	Sampling Time	1:40 PM	Extraction Date	4/3/2017
Matrix	Drinking Water	Facility ID		Sample Point ID	I
Sample Location		Comments			

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	4/4/2017	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	4/4/2017	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	4/4/2017	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	4/4/2017	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.04	4/4/2017	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	4/4/2017	TGT	EPA 537	

Surrogate Data

Sample Number	170329059-003			
Surrogate Standard	Method	Percent Recovery	Control Limits	
13C-PFDA	EPA 537	80.8	70-130	
13C-PFHxA	EPA 537	81.6	70-130	

Authorized Signature


Kathy Sattler, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA ID00013, AZ 0701, FL(NELAP): E87893, ID ID00013, MT CERT0028, NM: ID00013, NV ID00013, OR ID200001-002, WA C595
Certifications held by Anatek Labs WA: EPA WA00169, ID WA00169, WA C585, MT Cert0095, FL(NELAP): E871099

Friday, April 07, 2017

Page 3 of 3

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-001	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCDFC01	Sampling Time	10:40 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	0.00923	ug/L	0.01	11/28/2016	TGT	EPA 537	J
Perfluorohexanesulfonic acid - PFHxS	0.0465	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0622	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	100.6	70-130
13C-PFHxA	EPA 537	95.1	70-130

Anatek Labs, Inc.

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-004	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC04	Sampling Time	11:25 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-004		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	91.6	70-130
13C-PFHxA	EPA 537	91.0	70-130

Sample Number	161114025-005	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC05	Sampling Time	11:50 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-005		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	83.9	70-130
13C-PFHxA	EPA 537	88.6	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM:ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-006	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCRFC06/07	Sampling Time	12:15 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	0.0184	ug/L	0.03	11/28/2016	TGT	EPA 537	J
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0270	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-006		
Surrogate Standard			
13C-PFDA	Method EPA 537	Percent Recovery 84.4	Control Limits 70-130
13C-PFHxA	EPA 537	82.1	70-130

Sample Number	161114025-007	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCRFC08	Sampling Time	12:16 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-007		
Surrogate Standard			
13C-PFDA	Method EPA 537	Percent Recovery 93.8	Control Limits 70-130
13C-PFHxA	EPA 537	89.4	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Anatek Labs, Inc.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-008	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC09	Sampling Time	12:30 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	0.0205	ug/L	0.03	11/28/2016	TGT	EPA 537	J
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0246	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-008		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	85.5	70-130
13C-PFHxA	EPA 537	88.9	70-130

Sample Number	161114025-009	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC10	Sampling Time	12:45 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-009		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	91.4	70-130
13C-PFHxA	EPA 537	90.8	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

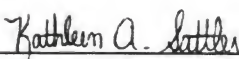
Sample Number	161114025-010	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCRFC00	Sampling Time	10:00 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	11/28/2016	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-010			
Surrogate Standard		Method	Percent Recovery	Control Limits
13C-PFDA		EPA 537	82.8	70-130
13C-PFHxA		EPA 537	80.0	70-130

Authorized Signature


Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:Cert0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, December 13, 2016

Page 6 of 6

Enclosure 5

Understanding Your Data Results:

You will notice that the data report comes with several laboratory descriptions that may not be familiar to you. The following definitions of those descriptions may assist you in understanding your sample results:

- **Limit of Quantitation (LOQ)** - the lowest amount of an analyte (chemical or substance of interest) that can be detected and measured by the laboratory with **confidence**. Amounts detected below the LOQ are qualified as estimated (J).
- **Limit of Detection (LOD)** - an **estimated** amount of an analyte (chemical or substance of interest) that can be detected by the laboratory. LOD is determined by testing a known amount of analyte through the analytical process.
- **Method Detection Limit (MDL)** - a calculated determination of the minimum amount of an analyte (chemical or substance of interest) that can be detected by the laboratory.
- **"J" Qualifier Code** - indicates the value reported for the analyte is below the LOQ and was detected. The value reported is considered estimated.
- **"D" Qualifier Code** - The reported value is from a dilution.
- **"M" Qualifier Code** - The compound required manual integration. The automated software performed an error requiring a qualified analyst to correct the quantitation of the compound.
- **"U" Qualifier Code** - indicates that the compound was not detected.
- **"E" Qualified Code** – indicates the value reported is estimated due to compound being detected above the laboratory's calibration range (sample re-analyzed at a dilution).
- **Surrogate** - A surrogate substance is added to the sample as a way to ensure quality control during the analytical process.

Town of Coupeville & Ft. Casey Treatment Plant
466 Keystone Hill Rd
WI-CV-1RW23-1216 (Well 108)
12/06/2016
09:21

Below are the preliminary, unvalidated test results for the December 6, 2016 sample of your drinking water. These initial results indicate that your drinking water sample is below the U.S. Environmental Protection Agency's lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required at your property at this time. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy is continuing to work in partnership with the Region 10 Environmental Protection Agency (EPA), Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to develop a long-term solution associated with PFAS in drinking water and groundwater resulting from activities at OLF Coupeville and Ault Field.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	44 U M	70
Perfluorooctanoic acid (PFOA)	55	70
PFOS and PFOA (cumulative)	55	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (pp)	Health Advisory (ppt)
	Result (ppt)		
Perfluorobutanesulfonic acid (PFBS) ¹	100 U	N/A	NA

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

1, There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 320-24178-1
SDG No.:	
Client Sample ID: WI-CV-1RW23-1216	Lab Sample ID: 320-24178-1
Matrix: Water	Lab File ID: 15DEC2016A6A_009.d
Analysis Method: 537	Date Collected: 12/06/2016 09:21
Extraction Method: 537	Date Extracted: 12/09/2016 18:59
Sample wt/vol: 273.4(mL)	Date Analyzed: 12/15/2016 11:30
Con. Extract Vol.: 1.00(mL)	Dilution Factor: 1
Injection Volume: 10(uL)	GC Column: Acquity ID: 2.1(mm)
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 142223	Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U M	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.055		0.027	0.022	0.0086
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	93		70-130
STL00996	13C2 PFDA	95		70-130

Town of Coupeville & Ft. Casey Treatment Plant
466 Keystone Hill Rd
WI-CV-1RW24-1216 (Well 487)
12/06/2016
09:45

Below are the preliminary, unvalidated test results for the December 6, 2016 sample of your drinking water. These initial results indicate that your drinking water sample is below the U.S. Environmental Protection Agency's lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required at your property at this time. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

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Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	45 U	70
Perfluorooctanoic acid (PFOA)	22 U	70
PFOS and PFOA (cumulative)	Not Detected	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (pp)	Health Advisory (ppt)
	Result (ppt)		
Perfluorobutanesulfonic acid (PFBS) ¹	100 U	N/A	NA

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

1, There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento

Job No.: 320-24178-1

SDG No.:

Client Sample ID: WI-CV-1RW24-1216

Lab Sample ID: 320-24178-4

Matrix: Water

Lab File ID: 15DEC2016A6A_012.d

Analysis Method: 537

Date Collected: 12/06/2016 09:45

Extraction Method: 537

Date Extracted: 12/09/2016 18:59

Sample wt/vol: 267.4(mL)

Date Analyzed: 12/15/2016 12:59

Con. Extract Vol.: 1.00(mL)

Dilution Factor: 1

Injection Volume: 10(uL)

GC Column: Acquity ID: 2.1(mm)

% Moisture:

GPC Cleanup:(Y/N) N

Analysis Batch No.: 142223

Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.045	U	0.056	0.045	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.022	0.0088
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	94		70-130
STL00996	13C2 PFDA	91		70-130

Town of Coupeville & Ft. Casey Treatment Plant
466 Keystone Hill Rd
WI-CV-1RW25-1216 (Well 106)
12/06/2016
10:00

Below are the preliminary, unvalidated test results for the December 6, 2016 sample of your drinking water. These initial results indicate that your drinking water sample is below the U.S. Environmental Protection Agency's lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required at your property at this time. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

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Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	44 U	70
Perfluorooctanoic acid (PFOA)	22 U	70
PFOS and PFOA (cumulative)	10 U	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (pp)	Health Advisory (ppt)
	Result (ppt)		
Perfluorobutanesulfonic acid (PFBS) ¹	100 U	N/A	NA

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

1, There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 320-24178-1
SDG No.:	
Client Sample ID: WI-CV-1RW25-1216	Lab Sample ID: 320-24178-6
Matrix: Water	Lab File ID: 15DEC2016A6A_014.d
Analysis Method: 537	Date Collected: 12/06/2016 10:00
Extraction Method: 537	Date Extracted: 12/09/2016 18:59
Sample wt/vol: 271.7(mL)	Date Analyzed: 12/15/2016 14:25
Con. Extract Vol.: 1.00(mL)	Dilution Factor: 1
Injection Volume: 10(uL)	GC Column: Acquity ID: 2.1(mm)
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 142223	Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.022	0.0087
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	97		70-130
STL00996	13C2 PFDA	92		70-130

Town of Coupeville & Ft. Casey Treatment Plant
466 Keystone Hill Rd
WI-CV-1RW26-1216 (Well 190)
12/06/2016
10:12

Below are the preliminary, unvalidated test results for the December 6, 2016 sample of your drinking water. These initial results indicate that your drinking water sample is below the U.S. Environmental Protection Agency's lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required at your property at this time. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy is continuing to work in partnership with the Region 10 Environmental Protection Agency (EPA), Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to develop a long-term solution associated with PFAS in drinking water and groundwater resulting from activities at OLF Coupeville and Ault Field.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	44 U	70
Perfluorooctanoic acid (PFOA)	22 U	70
PFOS and PFOA (cumulative)	Not Detected	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (pp)	Health Advisory (ppt)
	Result (ppt)		
Perfluorobutanesulfonic acid (PFBS) ¹	100 U	N/A	NA

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

1, There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 320-24178-1
SDG No.:	
Client Sample ID: WI-CV-1RW26-1216	Lab Sample ID: 320-24178-8
Matrix: Water	Lab File ID: 15DEC2016A6A_018.d
Analysis Method: 537	Date Collected: 12/06/2016 10:12
Extraction Method: 537	Date Extracted: 12/09/2016 18:59
Sample wt/vol: 270.3(mL)	Date Analyzed: 12/15/2016 16:24
Con. Extract Vol.: 1.00(mL)	Dilution Factor: 1
Injection Volume: 10(uL)	GC Column: Acquity ID: 2.1(mm)
% Moisture:	GPC Cleanup: (Y/N) N
Analysis Batch No.: 142412	Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.044	U	0.055	0.044	0.014
335-67-1	Perfluorooctanoic acid (PFOA)	0.022	U	0.028	0.022	0.0087
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.10	U	0.13	0.10	0.044

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	100		70-130
STL00996	13C2 PFDA	97		70-130

Town of Coupeville & Ft. Casey Treatment Plant
466 Keystone Hill Rd
WI-CV-1RW27-1216 (Post-Treatment)
12/06/2016
10:24

Below are the preliminary, unvalidated test results for the December 6, 2016 sample of your drinking water. These initial results indicate that your drinking water sample is below the U.S. Environmental Protection Agency's lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required at your property at this time. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy is continuing to work in partnership with the Region 10 Environmental Protection Agency (EPA), Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to develop a long-term solution associated with PFAS in drinking water and groundwater resulting from activities at OLF Coupeville and Ault Field.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Dec 2016	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	47 U	70
Perfluorooctanoic acid (PFOA)	38	70
PFOS and PFOA (cumulative)	38	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Dec 2016	Health Advisory (pp)	Health Advisory (ppt)
	Result (ppt)		
Perfluorobutanesulfonic acid (PFBS) ¹	110 U	N/A	NA

J - Analyte present, but result is estimated

U- Analyte not detected in the sample

1, There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento	Job No.: 320-24178-1
SDG No.:	
Client Sample ID: WI-CV-1RW27-1216	Lab Sample ID: 320-24178-10
Matrix: Water	Lab File ID: 15DEC2016A6A_020.d
Analysis Method: 537	Date Collected: 12/06/2016 10:24
Extraction Method: 537	Date Extracted: 12/09/2016 18:59
Sample wt/vol: 254.4(mL)	Date Analyzed: 12/15/2016 17:23
Con. Extract Vol.: 1.00(mL)	Dilution Factor: 1
Injection Volume: 10(uL)	GC Column: Acquity ID: 2.1(mm)
% Moisture:	GPC Cleanup:(Y/N) N
Analysis Batch No.: 142412	Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.047	U	0.059	0.047	0.015
335-67-1	Perfluorooctanoic acid (PFOA)	0.038		0.029	0.024	0.0093
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.11	U	0.14	0.11	0.047

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	114		70-130
STL00996	13C2 PFDA	112		70-130

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (POC: Joe Grogan)

434 WANAMAKER RD

WI-CV-1RW85-0217 (Well #1-87)

3/3/17

13:38

Below are the preliminary, unvalidated test results for the March 3, 2017 sample of your drinking water. These initial results indicate that your drinking water sample is below the U.S. Environmental Protection Agency's (EPA's) lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required at your property at this time. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy is continuing to work in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to develop a long-term solution associated with PFAS in drinking water and groundwater resulting from activities at OLF Coupeville and Ault Field.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Mar 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	50 U	70
Perfluorooctanoic acid (PFOA)	25 U	70
PFOS and PFOA (cumulative)	Not Detected	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Feb 2017	Health Advisory (pp)	Health Advisory (ppt)
	Result (ppt)		
Perfluorobutanesulfonic acid (PFBS) ¹	120 U	N/A	NA

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

1, There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26309-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW85-0217 Lab Sample ID: 320-26309-1
 Matrix: Water Lab File ID: 2017.03.09_537A_020.d
 Analysis Method: 537 Date Collected: 03/03/2017 13:38
 Extraction Method: 537 Date Extracted: 03/07/2017 17:54
 Sample wt/vol: 239 (mL) Date Analyzed: 03/09/2017 11:06
 Con. Extract Vol.: 1.00 (mL) Dilution Factor: 1
 Injection Volume: 2 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 154110 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.050	U	0.063	0.050	0.016
335-67-1	Perfluorooctanoic acid (PFOA)	0.025	U	0.031	0.025	0.0099
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.12	U	0.15	0.12	0.050

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	95		70-130
STL00996	13C2 PFDA	102		70-130

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (POC: Joe Grogan)
434 WANAMAKER RD
WI-CV-1RW86-0217 (Well #3-87)
3/3/17
14:15

Below are the preliminary, unvalidated test results for the March 3, 2017 sample of your drinking water. These initial results indicate that your drinking water sample is below the U.S. Environmental Protection Agency's (EPA's) lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required at your property at this time. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy is continuing to work in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to develop a long-term solution associated with PFAS in drinking water and groundwater resulting from activities at OLF Coupeville and Ault Field.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Mar 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	53 U	70
Perfluorooctanoic acid (PFOA)	27 U	70
PFOS and PFOA (cumulative)	Not Detected	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Feb 2017	Health Advisory (pp)	Health Advisory (ppt)
	Result (ppt)		
Perfluorobutanesulfonic acid (PFBS) ¹	120 U	N/A	NA

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

1, There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26309-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW86-0217 Lab Sample ID: 320-26309-3
 Matrix: Water Lab File ID: 2017.03.09_537A_022.d
 Analysis Method: 537 Date Collected: 03/03/2017 14:15
 Extraction Method: 537 Date Extracted: 03/07/2017 17:54
 Sample wt/vol: 226.3 (mL) Date Analyzed: 03/09/2017 11:15
 Con. Extract Vol.: 1.00 (mL) Dilution Factor: 1
 Injection Volume: 2 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 154110 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.053	U	0.066	0.053	0.017
335-67-1	Perfluorooctanoic acid (PFOA)	0.027	U	0.033	0.027	0.010
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.12	U	0.15	0.12	0.053

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	88		70-130
STL00996	13C2 PFDA	94		70-130

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (POC: Joe Grogan)
434 WANAMAKER RD
WI-CV-1RW87-0217 (Well #3A)
3/3/17
14:49

Below are the preliminary, unvalidated test results for the March 3, 2017 sample of your drinking water. These initial results indicate that your drinking water sample is below the U.S. Environmental Protection Agency's (EPA's) lifetime health advisory level for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required at your property at this time. Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy is continuing to work in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to develop a long-term solution associated with PFAS in drinking water and groundwater resulting from activities at OLF Coupeville and Ault Field.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	Mar 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	52 U	70
Perfluorooctanoic acid (PFOA)	26 U	70
PFOS and PFOA (cumulative)	Not Detected	70

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	Feb 2017	Health Advisory (pp)	Health Advisory (ppt)
	Result (ppt)		
Perfluorobutanesulfonic acid (PFBS) ¹	120 U	N/A	NA

J - Analyte present, but result is estimated

U - Analyte not detected in the sample

¹, There is not a health advisory level for this chemical and therefore no action is currently being taken based on this result. This compound was analyzed for per Navy policy. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration program.

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Sacramento Job No.: 320-26309-1
 SDG No.: _____
 Client Sample ID: WI-CV-1RW87-0217 Lab Sample ID: 320-26309-5
 Matrix: Water Lab File ID: 2017.03.09_537A_024.d
 Analysis Method: 537 Date Collected: 03/03/2017 14:49
 Extraction Method: 537 Date Extracted: 03/07/2017 17:54
 Sample wt/vol: 230 (mL) Date Analyzed: 03/09/2017 11:24
 Con. Extract Vol.: 1.00 (mL) Dilution Factor: 1
 Injection Volume: 2 (uL) GC Column: GeminiC18 3x100 ID: 3 (mm)
 % Moisture: _____ GPC Cleanup: (Y/N) N
 Analysis Batch No.: 154110 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
1763-23-1	Perfluorooctanesulfonic acid (PFOS)	0.052	U	0.065	0.052	0.017
335-67-1	Perfluorooctanoic acid (PFOA)	0.026	U	0.033	0.026	0.010
375-73-5	Perfluorobutanesulfonic acid (PFBS)	0.12	U	0.15	0.12	0.052

CAS NO.	SURROGATE	%REC	Q	LIMITS
STL00993	13C2 PFHxA	99		70-130
STL00996	13C2 PFDA	100		70-130

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Login Report

Customer Name: TOWN OF COUPEVILLE

1500 N. STATE ST. STE. 200

BELLINGHAM

WA

98225

Order ID: 161114025

Order Date: 11/14/2016

Contact Name: MOLLY HUGHES

Project Name: DW 537 TESTING

Comment: 537 SUBCONTRACTED TO ANATEK-M

Sample #: 161114025-001 **Customer Sample #:** COCPFC01

Recv'd: ☒ **Matrix:** Drinking Water **Collector:** STEVE HULSMAN

Date Collected: 11/10/2016

Quantity: 2 **Date Received:** 11/11/2016 11:08:00 AM

Time Collected: 10:40 AM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Sample #: 161114025-002 **Customer Sample #:** COCPFC02

Recv'd: ☒ **Matrix:** Drinking Water **Collector:** STEVE HULSMAN

Date Collected: 11/10/2016

Quantity: 2 **Date Received:** 11/11/2016 11:08:00 AM

Time Collected: 11:00 AM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Sample #: 161114025-003 **Customer Sample #:** COCPFC03

Recv'd: ☒ **Matrix:** Drinking Water **Collector:** STEVE HULSMAN

Date Collected: 11/10/2016

Quantity: 1 **Date Received:** 11/11/2016 11:08:00 AM

Time Collected: 10:40 AM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Customer Name: TOWN OF COUPEVILLE

Order ID: 161114025

1500 N. STATE ST. STE. 200

Order Date: 11/14/2016

BELLINGHAM

WA

98225

Contact Name: MOLLY HUGHES

Project Name: DW 537 TESTING

Comment: 537 SUBCONTRACTED TO ANATEK-M

Sample #: 161114025-004 Customer Sample #: COCPFC04

Recv'd: ☒ Matrix: Drinking Water Collector: STEVE HULSMAN

Date Collected: 11/10/2016

Quantity: 2 Date Received: 11/11/2016 11:08:00 AM

Time Collected: 11:25 AM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Sample #: 161114025-005 Customer Sample #: COCPFC05

Recv'd: ☒ Matrix: Drinking Water Collector: STEVE HULSMAN

Date Collected: 11/10/2016

Quantity: 2 Date Received: 11/11/2016 11:08:00 AM

Time Collected: 11:50 AM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Sample #: 161114025-006 Customer Sample #: COCPFC06/07

Recv'd: ☒ Matrix: Drinking Water Collector: STEVE HULSMAN

Date Collected: 11/10/2016

Quantity: 4 Date Received: 11/11/2016 11:08:00 AM

Time Collected: 12:15 PM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Sample #: 161114025-007 Customer Sample #: COCPFC08

Recv'd: ☒ Matrix: Drinking Water Collector: STEVE HULSMAN

Date Collected: 11/10/2016

Quantity: 1 Date Received: 11/11/2016 11:08:00 AM

Time Collected: 12:16 PM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Customer Name: TOWN OF COUPEVILLE
1500 N. STATE ST. STE. 200
BELLINGHAM WA 98225

Order ID: 161114025
Order Date: 11/14/2016

Contact Name: MOLLY HUGHES

Project Name: DW 537 TESTING

Comment: 537 SUBCONTRACTED TO ANATEK-M

Sample #: 161114025-008 Customer Sample #: COCPFC09

Recv'd: ☒ Matrix: Drinking Water Collector: STEVE HULSMAN Date Collected: 11/10/2016
Quantity: 2 Date Received: 11/11/2016 11:08:00 AM Time Collected: 12:30 PM
Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Sample #: 161114025-009 Customer Sample #: COCPFC10

Recv'd: ☒ Matrix: Drinking Water Collector: STEVE HULSMAN Date Collected: 11/10/2016
Quantity: 2 Date Received: 11/11/2016 11:08:00 AM Time Collected: 12:45 PM
Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

Sample #: 161114025-010 Customer Sample #: COCPFC00

Recv'd: ☒ Matrix: Drinking Water Collector: STEVE HULSMAN Date Collected: 11/10/2016
Quantity: 1 Date Received: 11/11/2016 11:08:00 AM Time Collected: 10:00 AM
Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	12/2/2016	<u>Normal (~10 Days)</u>

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature of the sample(s)? (°C)	8.5
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes



ANATEK LABS, INC - Multi-state Certified, NELAP 161114 026 COUP
12/2/2016
1st SAMP 11/10/201 1st RCVD 11/11/2016
1282 Alturas Drive Moscow ID 83843 (208)888-2839 FAX 882-82
504 E Sprague Ste D, Spokane WA 99202 (509)838-3999 FAX 838-3999

Chain of Custody

WATER SYSTEM
SEND REPORT TO
ADDRESS
CITY STATE ZIP

Town of Coupeville
Mouly Hughes
Po Box 725
Coupeville, WA 98277

Water System #
Phone Number
Fax Number
County

N/A
360.678.4461
Island

Sample Type
EP
MR
SW
GW
GU
SE 1 - SE 2 - SE 3 - SE 4

FACILITY NAME
See additional COC sheet
FACILITY ID
Date & Time Collected
Sampler Name
Sampler Signature

Receiving Checklist
Received Initial
Labels & Chain's Agree
Loops-Plugs Present
Custody Seals Present
Preservatives

Check Desired Analyses

LIST 1
EPA 200.8
EPA 18.7
EPA 300.1
EPA 522
EPA 524.3
EPA 537
FIELD BLANK

LIST 2
EPA 309
FIELD BLANK

Disinfection Type (check all that apply)
Gaseous chlorine
Onsite generated hypochlorite
Onsite generated hypochlorite
Chloramine (formed from gaseous chlorine)
Chloramine (formed from onsite hypochlorite)
Chloramine (formed from onsite hypochlorite)
Ultraviolet Light
Ozone
All other types of Disinfectant
Chlorine Dioxide - Sample Sparged? Y / N
No Disinfectant

Customer Signature
Shipping/Delivery Date

George Huleman for Mully Hughes
11/10/16

Received By
Date Received

M. Jones
11-11-16 11:08

Payment due with samples, unless credit has been established



FIELD SAMPLE DATA AND CHAIN OF CUSTODY

Division of Drinking Water 537 TESTING
61114 026 COUP Last 12/2/2016
1st SAMP 11/10/201 1st RCVD 11/11/2016

DOCUMENT NUMBER: PROJECT NAME:

111016-01 Town of Capeville

LABORATORY:

Ahatek

PROJECT OFFICE:

TELEPHONE: 360-678-4461

ACCOUNT:

☐ Enforcement/Custody
☒ Data Confidential
☐ Possible Toxic/Hazardous

Method 537

LIST SPECIAL HANDLING INSTRUCTIONS FOR TOXIC/HAZARDOUS MATERIALS:

RECORDED
Stew
Kelly,
Jes

LABORATORY SAMPLE NUMBER	FIELD SAMPLE NUMBER	SOURCE CODE	MATRIX CODE	CONTAINER CODE	PRSRVD (Y/N)	NUMBER OF CONTAINERS	SAMPLING DATE AND TIME			TEMP DEG C	pH	CONDCTVY umho/cm	DEPTH	UNITS	TYPE	COL MTD CD	QA CODE	FIELD LOG NUMBER PAGE NUM
							YEAR	MO	DAY	TIME								
C0CPCFC01	01	X	X	X	X	02	16	11	10	1040	X	X	X	X	X	X	X	10/6
C0CPCFC02	02	X	X	X	X	02	11	11	11	1100	X	X	X	X	X	X	X	10/6
C0CPCFC03	03	X	X	X	X	01	11	11	11	1040	X	X	X	X	X	X	X	10/6
C0CPCFC04	04	X	X	X	X	02	11	11	11	1125	X	X	X	X	X	X	X	10/6
C0CPCFC05	05	X	X	X	X	02	11	11	11	1150	X	X	X	X	X	X	X	10/6
C0CPCFC06	06	X	X	X	X	02	11	11	11	1215	X	X	X	X	X	X	X	10/6
C0CPCFC07	07	X	X	X	X	02	11	11	11	1215	X	X	X	X	X	X	X	10/6
C0CPCFC08	08	X	X	X	X	01	11	11	11	1216	X	X	X	X	X	X	X	10/6
C0CPCFC09	09	X	X	X	X	02	11	11	11	1236	X	X	X	X	X	X	X	10/6
C0CPCFC10	10	X	X	X	X	02	16	11	10	1124	X	X	X	X	X	X	X	10/6

CONDITION OF SAMPLES UPON RECEIPT AT LAB:

CUSTODY SEALS INTACT:
☐ Yes ☐ No ☐ None

COMMENTS:

RELINQUISHED BY (SIGNATURE):

RELINQUISHED BY (SIGNATURE):

RELINQUISHED BY (SIGNATURE):

RELINQUISHED BY (SIGNATURE):

DISPATCHED BY (SIGNATURE):

METHOD OF SHIPMENT

Fed Ex

CHAIN OF CUSTODY RECORD

RECEIVED BY (DATE)

RECEIVED BY (DATE)

RECEIVED BY (DATE)

RECEIVED BY (DATE)

RECEIVED BY (DATE)

RECEIVED BY (DATE)

Division of Drinking Water

1st SAMP	1st RCVD	Last Due
1/6/11	4/25	12/2/2016
1/10/201	1/1/2016	

SOURCE CODE		MATRIX CODE		CONTAINER CODE		PRSRVD (Y/N)		NUMBER OF CONTAINERS		YEAR		MO		DAY		TIME		TEMP DEG C		pH		CONDUCTIVITY umho/cm		DEPTH		UNITS		TYPE		COL MTD CD		QA CODE		FIELD LOGBOOK NUMBER & PAGE NUMBER		STATION DESCRIPTION COMMENTS		SAMPLER'S INITIALS	

DISTRIBUTION:	White - Laboratory	Yellow - Project Officer	Pink - Field or Office
1. <u>Project Description</u>			
2. <u>Objectives</u>			
3. <u>Methods</u>			
4. <u>Results</u>			
5. <u>Conclusions</u>			
6. <u>References</u>			
7. <u>Appendices</u>			
8. <u>Summary</u>			
9. <u>Other</u>			

8.5°C 1 Pt 1

Anatek Labs, Inc.

1282 Alturas Drive • Moscow, ID 83843 • (208) 883-2839 • Fax (208) 882-9246 • email moscow@anateklabs.com
504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TOWN OF COUPEVILLE
Address: 1500 N. STATE ST. STE. 200
BELLINGHAM, WA 98225
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-001	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC01	Sampling Time	10:40 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0622	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-001		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	100.6	70-130
13C-PFHxA	EPA 537	95.1	70-130

Sample Number	161114025-002	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC02	Sampling Time	11:00 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0558	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-002		
Surrogate Standard	Method	Percent Recovery	Control Limits
13C-PFDA	EPA 537	94.9	70-130
13C-PFHxA	EPA 537	98.0	70-130

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

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Client: TOWN OF COUPEVILLE
Address: 1500 N. STATE ST. STE. 200
BELLINGHAM, WA 98225
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-003	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC03	Sampling Time	10:40 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-003						
Surrogate Standard		Method		Percent Recovery		Control Limits	
13C-PFDA		EPA 537		87.5		70-130	
13C-PFHxA		EPA 537		88.4		70-130	

Sample Number	161114025-004	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC04	Sampling Time	11:25 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-004						
Surrogate Standard		Method		Percent Recovery		Control Limits	
13C-PFDA		EPA 537		91.6		70-130	
13C-PFHxA		EPA 537		91.0		70-130	

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Client: TOWN OF COUPEVILLE
Address: 1500 N. STATE ST. STE. 200
BELLINGHAM, WA 98225
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-005	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCRFC05	Sampling Time	11:50 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-005				
Surrogate Standard		Method		Percent Recovery	Control Limits
13C-PFDA		EPA 537		83.9	70-130
13C-PFHxA		EPA 537		88.6	70-130

Sample Number	161114025-006	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCRFC06/07	Sampling Time	12:15 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0270	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-006				
Surrogate Standard		Method		Percent Recovery	Control Limits
13C-PFDA		EPA 537		84.4	70-130
13C-PFHxA		EPA 537		82.1	70-130

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Client: TOWN OF COUPEVILLE
Address: 1500 N. STATE ST. STE. 200
BELLINGHAM, WA 98225
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-007	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCF08	Sampling Time	12:16 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-007				
Surrogate Standard		Method	Percent Recovery	Control Limits	
13C-PFDA		EPA 537	93.8	70-130	
13C-PFHxA		EPA 537	89.4	70-130	

Sample Number	161114025-008	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCF09	Sampling Time	12:30 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0246	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-008				
Surrogate Standard		Method	Percent Recovery	Control Limits	
13C-PFDA		EPA 537	85.5	70-130	
13C-PFHxA		EPA 537	88.9	70-130	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cen0095; FL(NELAP): E871099

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Client: TOWN OF COUPEVILLE
Address: 1500 N. STATE ST. STE. 200
BELLINGHAM, WA 98225
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Sample Number	161114025-009	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC10	Sampling Time	12:45 PM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-009				
Surrogate Standard		Method	Percent Recovery	Control Limits	
13C-PFDA		EPA 537	91.4	70-130	
13C-PFHxA		EPA 537	90.8	70-130	

Sample Number	161114025-010	Sampling Date	11/10/2016	Date/Time Received	11/11/2016 11:08 AM
Client Sample ID	COCPCFC00	Sampling Time	10:00 AM	Extraction Date	11/18/2016
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/28/2016	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	11/28/2016	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/28/2016	TGT	EPA 537	

Surrogate Data

Sample Number	161114025-010				
Surrogate Standard		Method	Percent Recovery	Control Limits	
13C-PFDA		EPA 537	82.8	70-130	
13C-PFHxA		EPA 537	80.0	70-130	

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Client: TOWN OF COUPEVILLE
Address: 1500 N. STATE ST. STE. 200
BELLINGHAM, WA 98225
Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report

Authorized Signature


Kathy Sattler, Lab Manager

MCL EPA's Maximum Contaminant Level
ND Not Detected
PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
The results reported relate only to the samples indicated.
Soil/solid results are reported on a dry-weight basis unless otherwise noted.

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Attn: MOLLY HUGHES

Batch #: 161114025
Project Name: DW 537 TESTING

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Perfluorooctanoic acid - PFOA	0.0166	ug/L	0.02	83.0	50-150	11/18/2016	11/28/2016
Perfluorooctanesulfonic acid - PFOS	0.0397	ug/L	0.04	99.3	50-150	11/18/2016	11/28/2016
Perfluorobutanesulfonic acid - PFBS	0.060	ug/L	0.09	66.7	50-150	11/18/2016	11/28/2016

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
161115016-004	Perfluorooctanoic acid - PFOA	ND	0.0833	ug/L	0.08	104.1	70-130	11/18/2016	11/28/2016
161115016-004	Perfluorooctanesulfonic acid - PFOS	ND	0.148	ug/L	0.16	92.5	70-130	11/18/2016	11/28/2016
161115016-004	Perfluorobutanesulfonic acid - PFBS	ND	0.299	ug/L	0.36	83.1	70-130	11/18/2016	11/28/2016

Matrix Spike Duplicate

Parameter	MSD Result	Units	MSD Spike	%Rec	%RPD	AR %RPD	Prep Date	Analysis Date
Perfluorooctanoic acid - PFOA	0.103	ug/L	0.08	128.8	21.1	0-25	11/18/2016	11/28/2016
Perfluorooctanesulfonic acid - PFOS	0.162	ug/L	0.16	101.3	9.0	0-25	11/18/2016	11/28/2016
Perfluorobutanesulfonic acid - PFBS	0.368	ug/L	0.36	102.2	20.7	0-25	11/18/2016	11/28/2016

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	11/18/2016	11/28/2016
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.04	11/18/2016	11/28/2016
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	11/18/2016	11/28/2016

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: 537 SUBCONTRACTED TO ANATEK-M

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Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, December 06, 2016

Page 1 of 1

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Login Report

Customer Name: TOWN OF COUPEVILLE

Order ID: 170329059

P.O. BOX 725

Order Date: 3/29/2017

COUPEVILLE

WA 98239

Contact Name: JOSEPH GROGAN

Project Name: 537

Comment:

Sample #: 170329059-001 **Customer Sample #:** DIST

Recv'd: ☒ **Matrix:** Drinking Water **Collector:** JOSEPH GROGAN

Date Collected: 3/28/2017

Quantity: 1 **Date Received:** 3/29/2017 1:55:00 PM

Time Collected: 2:00 PM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	4/17/2017	<u>Normal (~10 Days)</u>

Sample #: 170329059-002 **Customer Sample #:** 1-08

Recv'd: ☒ **Matrix:** Drinking Water **Collector:** JOSEPH GROGAN

Date Collected: 3/28/2017

Quantity: 1 **Date Received:** 3/29/2017 1:55:00 PM

Time Collected: 1:40 PM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	4/17/2017	<u>Normal (~10 Days)</u>

Sample #: 170329059-003 **Customer Sample #:** 2-87

Recv'd: ☒ **Matrix:** Drinking Water **Collector:** JOSEPH GROGAN

Date Collected: 3/28/2017

Quantity: 1 **Date Received:** 3/29/2017 1:55:00 PM

Time Collected: 1:40 PM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	4/17/2017	<u>Normal (~10 Days)</u>

Customer Name: TOWN OF COUPEVILLE

P.O. BOX 725

COUPEVILLE

WA

98239

Order ID: 170329059

Order Date: 3/29/2017

Contact Name: JOSEPH GROGAN

Project Name: 537

Comment:

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature of the sample(s)? (°C)	10.1/10.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Are VOC samples free of headspace?	N/A
Is there a trip blank to accompany VOC samples?	N/A
Labels and chain agree?	Yes



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□ 504 E Sprague Ste D, Spokane WA 99202 (509)838-3999 FAX 838

70329 059 COUP Last Due 4/17/2017

ST SAMP 3/28/2017 1st RCVD 3/29/2017

Washington Chain of Custody - Drinking Water Analysis

WATER SYSTEM	TOWN OF COOPEVILLE	Water System #	155509
SEND REPORT TO	JOSEPH GREGAN	Phone Number	(360) 914-0314
ADDRESS	PO Box 725	Fax Number	
CITY STATE ZIP	COOPEVILLE WA 98239	County	ESLAND

Sample Type	Sample Purpose	Before (B)	Compliance (C)
		After (A)	Investigative (I)
		Unknown (U)	Other Purpose (B)

Date & Time Collected	3/28/17 1400
Sampler Name:	JOSEPH GREGAN
Sampler Signature:	<i>[Signature]</i>

Samples submitted to	ESLAND
----------------------	--------

Payment due with samples unless credit has been established.

DOH Source # (Check one and fill in where necessary)

Single Well Source Number:	
Flowing Distribution (92)	DIST
Standing Distribution (93) (Lead/Copper Distribution)	
Composite Sampling (95) List source #'s	
Blended Sample (96) List source #'s	

Receiving Check List

<input checked="" type="checkbox"/> Received Intact	<input type="checkbox"/> No Headspace
<input checked="" type="checkbox"/> Labels & Chains Agree	<input checked="" type="checkbox"/> Temp: 10.1/10.3/10.1
<input checked="" type="checkbox"/> Ice/Ice-Packs Present	
<input type="checkbox"/> Custody Seals Present	
<input checked="" type="checkbox"/> Preservatives: TRIZ	2165-16

Check Desired Analyses

IOCs	Lead / Copper
Lead / Arsenic	
Nitrate	
Nitrite	
Washington Complete IOC	
Asbestos	

VOCs & DBPs	VOC (VOC1)
TTHM	
HAA5	
TOC	
RADs	Gross Alpha
	Gross Beta
	RAD 226
	RAD 228

SOCs	Phase II SOC
	Semivolatiles (PEST1)
	Herbicides (HERB1)
	Carbamates (INSECT1)
	Pesticides (PEST1)
	EDB
	Phase V SOC
	Diquat
	Endothall
	Glyphosate
	Dioxin

Other (specify):

EPA 537
UCMR
Couder / Ice / UPS

Customer Signature	<i>[Signature]</i>
Shipping/Delivery Date	3/28/17

Received By	<i>[Signature]</i>
Date Received	3/28/17 13:52



170329 059 COUP 4/17/2017
Last Due
3/28/2017 1st RCVD 3/29/2017

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504 E Sprague Ste D, Spokane WA 99202 (509)838-3999 FAX 1

Washington Chain of Custody - Drinking Water Analysis

WATER SYSTEM TOWN OF COUPEVILLE		Water System # 155509	
SEND REPORT TO JOSEPH GREGAN		Phone Number (360) 914-0314	
ADDRESS PO Box 225		Fax Number ISLAND	
CITY STATE ZIP COUPEVILLE WA 98239		County ISLAND	

Sample Type <input type="checkbox"/> Before (B) <input type="checkbox"/> After (A) <input type="checkbox"/> Unknown (U)	Sample Purpose <input type="checkbox"/> Compliance (C) <input checked="" type="checkbox"/> Investigative (I) <input type="checkbox"/> Other Purpose (B)	Date & Time Collected 3/28/17 1340	Samples Submitted to JOSEPH GREGAN
		Sampler Name JOSEPH GREGAN	Payment due with samples unless credit has been established.
		Sampler Signature <i>[Signature]</i>	

DOH Source # (Check one and fill in where necessary)	
<input checked="" type="checkbox"/> Single Well Source Number: 1-08	
<input type="checkbox"/> Flowing Distribution (92)	
<input type="checkbox"/> Standing Distribution (93) (Lead/Copper Distribution)	
<input type="checkbox"/> Composite Sampling (95) List source #'s	
<input type="checkbox"/> Blended Sample (96) List source #'s	

Check Desired Analyses	
IOCs <input type="checkbox"/> Lead / Copper <input type="checkbox"/> Lead / Arsenic <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Washington Complete IOC <input type="checkbox"/> Asbestos	VOCs & DBPs <input type="checkbox"/> VOC (VOC1) <input type="checkbox"/> TTHM <input type="checkbox"/> HAA5 <input type="checkbox"/> TOC RADs <input type="checkbox"/> Gross Alpha <input type="checkbox"/> Gross Beta <input type="checkbox"/> RAD 226 <input type="checkbox"/> RAD 228

Receiving Check List	
<input checked="" type="checkbox"/> Received intact	<input type="checkbox"/> No Headspace
<input checked="" type="checkbox"/> Labels & Chains Agree	<input checked="" type="checkbox"/> Temp: 10.1 / 10.3 / 11.1
<input checked="" type="checkbox"/> Ice/Ice-Packs Present	
<input type="checkbox"/> Custody Seals Present	
<input checked="" type="checkbox"/> Preservatives: PLZ R-185-16	

Check Desired Analyses	
SOCS <input type="checkbox"/> Phase II SOC <input type="checkbox"/> Semivolatiles (PEST1) <input type="checkbox"/> Herbicides (HERB1) <input type="checkbox"/> Carbamates (INSECT1) <input type="checkbox"/> Pesticides (PEST1) <input type="checkbox"/> EDB <input type="checkbox"/> Phase V SOC <input type="checkbox"/> Diquat <input type="checkbox"/> Endothall <input type="checkbox"/> Glyphosate <input type="checkbox"/> Dioxin	Other (specify): EPA 537 UEMR COOPER / ICE / URS

Customer Signature <i>[Signature]</i>	Received By <i>[Signature]</i>
Shipping/Delivery Date 3/28/17	Date Received



170329 059 COUP Last Due
4/17/2017 3/28/2017 1st RCVD 3/29/2017

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504 E Sprague Ste D, Spokane WA 99202 (509)838-3999 FAX 83

Washington Chain of Custody - Drinking Water Analysis

WATER SYSTEM TOWN OF COOPERVILLE		Water System # 155509
SEND REPORT TO ADDRESS JOSEPH GREGAN PO Box 225		Phone Number (360) 914-0314
CITY STATE ZIP COOPERVILLE WA 98239		Fax Number ISLAND
Sample Type <input type="checkbox"/> Before (B) <input type="checkbox"/> Compliance (C) <input type="checkbox"/> After (A) <input checked="" type="checkbox"/> Investigative (I) <input type="checkbox"/> Unknown (U) <input type="checkbox"/> Other Purpose (B)		Samples submitted to ISLAND
Sample Purpose <input type="checkbox"/> Before (B) <input type="checkbox"/> Compliance (C) <input type="checkbox"/> After (A) <input checked="" type="checkbox"/> Investigative (I) <input type="checkbox"/> Unknown (U) <input type="checkbox"/> Other Purpose (B)		Date & Time Collected 3/28/17 1340
DOH Source # (Check one and fill in where necessary) <input checked="" type="checkbox"/> Single Well Source Number: 2-87 <input type="checkbox"/> Flowing Distribution (92) <input type="checkbox"/> Standing Distribution (93) (Lead/Copper Distribution) <input type="checkbox"/> Composite Sampling (95) List source #'s <input type="checkbox"/> Blended Sample (96) List source #'s		Sampler Name: JOSEPH GREGAN Sampler Signature: [Signature]
Check Desired Analyses IOCs <input type="checkbox"/> Lead / Copper <input type="checkbox"/> Lead / Arsenic <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite <input type="checkbox"/> Washington Complete IOC <input type="checkbox"/> Asbestos VOCs & DBPs <input type="checkbox"/> VOC (VOC1) <input type="checkbox"/> TTHM <input type="checkbox"/> HAA5 <input type="checkbox"/> TOC RADS <input type="checkbox"/> Gross Alpha <input type="checkbox"/> Gross Beta <input type="checkbox"/> RAD 226 <input type="checkbox"/> RAD 228		Receiving Check List <input checked="" type="checkbox"/> Received Intact <input type="checkbox"/> No Headspace <input checked="" type="checkbox"/> Labels & Chains Agree <input checked="" type="checkbox"/> Temp: 10.3 / 12.1 <input checked="" type="checkbox"/> Ice/Ice-Packs Present <input type="checkbox"/> Custody Seals Present <input checked="" type="checkbox"/> Preservatives: 12/12 R165-16
Check Desired Analyses SOCs <input type="checkbox"/> Phase II SOC <input type="checkbox"/> Semivolatiles (PEST1) <input type="checkbox"/> Herbicides (HERB1) <input type="checkbox"/> Carbamates (INSECT1) <input type="checkbox"/> Pesticides (PEST1) <input type="checkbox"/> EDB <input type="checkbox"/> Phase V SOC <input type="checkbox"/> Diquat <input type="checkbox"/> Endothall <input type="checkbox"/> Glyphosate <input type="checkbox"/> Dioxin Other (specify): EPA 537 UEMR Water / Ice / UPS		Payment due with samples unless credit has been established.
Customer Signature [Signature] Shipping/Delivery Date 3/28/17		Received By [Signature] Date Received 3/28/17 12:35



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726
Ser N46/0391
January 27, 2017

The Honorable Molly Hughes
Mayor of Coupeville
PO Box 725
Coupeville, WA 98239

Dear Mayor Hughes:

Subj: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULT FIELD
DRINKING WATER TESTING RESULTS

The initial results from the drinking water sampling from your community wells for per- and polyfluoroalkyl substances (PFAS) indicate that perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA) are below the Environmental Protection Agency's (EPA's) Lifetime Health Advisory (LHA). These results indicate that no further action is required for these community wells at this time. Enclosure 1 shows the phase 1 sampling area for Naval Air Station Whidbey Island (NAS WI) Outlying Landing Field (OLF).

The specific test results of the drinking water sampling performed at your community well are provided in Enclosures 3, 4 and 5. Please note that these are initial results, which still need to be validated. Data validation is performed by a third party data validation firm in order to determine if the data is usable as reported. This process includes data evaluation in terms of precision, accuracy, representativeness, comparability, completeness, and sensitivity. This process can take several weeks. We will provide you a copy of the validated results once received and update you on any changes necessary; however, we don't anticipate the results to change significantly.

The health and safety of our neighbors are my top priority, which is why the Navy developed a protective policy to address past releases of Aqueous Film Forming Foam (also known as firefighting foam) (AFFF) containing PFAS. PFAS are unregulated or "emerging" contaminants, which have no Safe Drinking Water Act regulatory standards or routine water quality testing requirements.

In May 2016, the EPA developed a LHA for two PFAS compounds, specifically PFOS and PFOA. According to the EPA, health advisory levels are not regulatory standards. They are health-based concentrations which should offer a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOS and PFOA in drinking water. The EPA health advisory level for lifetime exposure is 70 parts per trillion (ppt) for PFOS and 70 ppt for PFOA. When both PFOS and PFOA are found in drinking water, the combined concentrations should not exceed 70 ppt.

5726
Ser N46/0391
January 27, 2017

The Navy will continue working closely with Region 10 U.S. EPA, Agency for Toxic Substances and Disease Registry, State of Washington Department of Health, and Island County Public Health to address this important issue. I am committed to the health and safety of all neighbors in our community and will keep you updated if information or regulatory status of these compounds change.

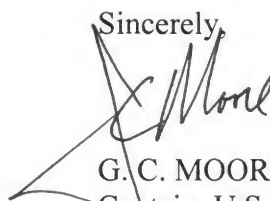
Below are links to sites that will provide additional detail and background information:

EPA Fact Sheet about the PFOS and PFOA health advisory levels: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>, and Naval Facilities Engineering Command Northwest update: <http://go.usa.gov/xkMBc>

We will host another public meeting in early 2017 to share a summary of the drinking water investigation results and any plans for additional sampling. No specific results will be shared with the general public. You will receive an email or phone call of this meeting a minimum of one week before it is held.

Thank you for your cooperation as we work to ensure that human health and the environment are protected. I understand that you may have additional questions regarding the Navy's actions and what this means to you. Please contact the Navy's Public Affairs Officer Leslie Yuenger at (360) 396-6387 or by email at PAO_feedback@navy.mil.

Sincerely,



G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. NASWI OLF Coupeville Water Investigation Fact Sheet
2. Summary of results
3. Laboratory results
4. Explanation of laboratory abbreviations

3A, 1-87 + 3-87



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVE
OAK HARBOR, WASHINGTON 98278-5000

5726
Ser N46/0983
April 10, 2017

Town of Coupeville and Fort Casey Treatment Plant
PO Box 725
Coupeville, WA 98239

Dear Water Purveyor:

SUBJECT: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULT FIELD
DRINKING WATER TESTING RESULTS

I am writing you regarding the U.S. Navy's drinking water investigation around Naval Air Station (NAS) Whidbey Island's Ault Field and Outlying Landing Field (OLF) Coupeville to inform you that we received the preliminary sampling results for your community well. The preliminary sampling results indicate that the drinking water is below the Environmental Protection Agency's (EPA) Lifetime Health Advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required for the community well at this time. We are providing residents serviced by this community well that are within the Navy's phase 2 sampling area a copy of this letter with the preliminary drinking water results. Please contact your customers that live outside of this sampling area (if any) to alleviate any concern those residents may have regarding their drinking water. Please find the preliminary test results of the community well attached here in Enclosures 1 and 2.

As an extra precaution, the preliminary results are going through a subsequent validation process to confirm their accuracy. Because validation of results can take several weeks to complete, we wanted to share the initial testing results immediately to keep you informed of the process every step of the way. We will follow up with the validated results as soon as that process is complete.

Following the distribution of preliminary Phase 1 result letters, it was brought to our attention that we were not clear in explaining the difference between the various data reporting levels and laboratory abbreviations in the preliminary data report. This created unnecessary confusion and we sincerely apologize. The Navy is evaluating ways to report the data in the future that would be less confusing to residents. In the interim, please find the factsheet enclosed that will assist you in understanding your data package as it is reported at this time (see Enclosure 3).

The Navy is working in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to determine what additional actions are appropriate and to develop a long-term solution associated with PFOA and PFOS in other residents' drinking water resulting from NAS Whidbey Island activities. As the scientific community learns more, the EPA health advisory levels may

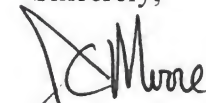
5726
Ser N46/0983
April 10, 2017

change or additional standards may be developed by other federal, state, or local agencies. These changes may necessitate additional actions to be taken by the Navy. If your property is affected by any future changes, we will contact you to coordinate any additional actions.

Please know that the health and safety of this community is a top priority for me and I am committed to keeping you informed on developments that may impact you and your neighbors. We will continue to update our public website, <http://go.usa.gov/xkMBc>, as information, research, and regulation from federal, state or local agencies evolve in order to keep residents informed about the investigation at NAS Whidbey Island. You may also reach out to Navy Public Affairs Officer, Leslie Yuenger, at (360) 396-6387 or by email at PAO_feedback@navy.mil with any questions.

Thank you for your time and cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "G. C. Moore", written over a large, stylized "X" mark.

G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Summary of Preliminary Data Results
2. Preliminary Data Report
3. Understanding Data Packages



DEPARTMENT OF THE NAVY

NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726

Ser N46/0831

March 27, 2017

Town of Coupeville and Fort Casey Treatment Plant
PO Box 725
Coupeville, WA 98239

RECEIVED

APR 17 2017

Dear Water Purveyor:

TOWN OF COUPEVILLE

SUBJECT: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULT FIELD
DRINKING WATER TESTING RESULTS

I am writing you regarding the U.S. Navy's drinking water investigation around Naval Air Station (NAS) Whidbey Island's Ault Field and Outlying Landing Field (OLF) Coupeville to inform you that we received the preliminary sampling results for your community well. The preliminary sampling results indicate that the drinking water is below the Environmental Protection Agency's (EPA) Lifetime Health Advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required for the community well at this time. We are providing residents serviced by this community well that are within the Navy's phase 1 sampling area a copy of this letter with the preliminary drinking water results. Please contact your customers that live outside of this sampling area to alleviate any concern those residents may have regarding their drinking water. Please find the preliminary test results of the community well attached here in Enclosures 1 and 2.

As an extra precaution, the preliminary results are going through a subsequent validation process to confirm their accuracy. Because validation of results can take several weeks to complete, we wanted to share the initial testing results immediately to keep you informed of the process every step of the way. We will follow up with the validated results as soon as that process is complete.

Following the distribution of preliminary result letters to other residents, it was brought to our attention that we were not clear in explaining the difference between the various data reporting levels and laboratory abbreviations in the preliminary data report. This created unnecessary confusion and we sincerely apologize. The Navy is evaluating ways to report the data in the future that would be less confusing to residents. In the interim, please find the factsheet enclosed that will assist you in understanding your data package as it is reported at this time (see Enclosure 3).

The Navy is working in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to determine what additional actions are appropriate and to develop a long-term solution associated with PFOA and PFOS in other residents' drinking water resulting from NAS Whidbey Island activities. As the scientific community learns more, the EPA health advisory levels may

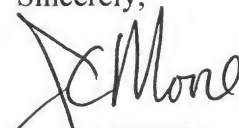
5726
Ser N46/0831
March 27, 2017

change or additional standards may be developed by other federal, state, or local agencies. These changes may necessitate additional actions to be taken by the Navy. If your property is affected by any future changes, we will contact you to coordinate any additional actions.

Please know that the health and safety of this community is a top priority for me and I am committed to keeping you informed on developments that may impact you and your neighbors. We will continue to update our public website, <http://go.usa.gov/xkMBc>, as information, research, and regulation from federal, state or local agencies evolve in order to keep residents informed about the investigation at NAS Whidbey Island. You may also reach out to Navy Public Affairs Officer, Leslie Yuenger, at (360) 396-6387 or by email at PAO_feedback@navy.mil with any questions.

Thank you for your time and cooperation.

Sincerely,



G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Summary of Preliminary Data Results
2. Preliminary Data Report
3. Understanding Data Packages



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726
Ser N46/2520
June 12, 2017

Town of Coupeville and Fort Casey Treatment Plant
PO Box 725
Coupeville, WA 98239

Dear Water Purveyor:

SUBJECT: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULT FIELD
DRINKING WATER VALIDATED TESTING RESULTS

I am writing regarding the U.S. Navy's drinking water investigation around Naval Air Station (NAS) Whidbey Island's Ault Field and Outlying Landing Field (OLF) Coupeville. The process of validating your preliminary sampling results is complete. The validated sampling results indicate that the drinking water remains below the Environmental Protection Agency's (EPA) Lifetime Health Advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required for the community well at this time. We are providing residents serviced by this community well that are within the Navy's phase 1 sampling area a copy of this letter with the validated drinking water results. Please contact your customers that live outside of this sampling area to alleviate any concern those residents may have regarding their drinking water. Please find the validated test results of the community well attached here in Enclosures 1 and 2.

Following the distribution of preliminary result letters to residents, it was brought to our attention that we were not clear in explaining the difference between the various data reporting levels and laboratory abbreviations in the preliminary data report. This created unnecessary confusion and we sincerely apologize. The Navy is evaluating ways to report the data in the future that would be less confusing to residents, such as stating 'ND' (non-detect) when a result was not detected by the laboratory instrument. In the interim, please find the factsheet enclosed that will assist you in understanding your data package as it is reported at this time (see Enclosure 3).

The Navy is working in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to determine what additional actions are appropriate and to develop a long-term solution associated with PFOA and PFOS in other residents' drinking water resulting from NAS Whidbey Island activities. As the scientific community learns more, the EPA health advisory levels may change or additional standards may be developed by other federal, state, or local agencies. These changes may necessitate additional actions to be taken by the Navy. If your property is affected by any future changes, we will contact you to coordinate any additional actions.

5726
Ser N46/2520
June 12, 2017

Please know that the health and safety of this community is a top priority for me and I am committed to keeping you informed on developments that may impact you and your neighbors. We will continue to update our public website, <http://go.usa.gov/xkMBc>, as information, research, and regulation from federal, state or local agencies evolve in order to keep residents informed about the investigation at NAS Whidbey Island. You may also reach out to Navy Public Affairs Officer, Leslie Yuenger, at (360) 396-6387 or by email at PAO_feedback@navy.mil with any questions.

Thank you for your time and cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "G. C. Moore", written over a large, stylized "X" mark.

G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Summary of Validated Data Results
2. Validated Data Report
3. Understanding your Data Package Factsheet



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726
Ser N46/1406
April 24, 2017

The Honorable Molly Hughes
Mayor of Coupeville
PO Box 725
Coupeville, WA 98239

Dear Mayor Hughes:

**SUBJECT: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULT FIELD
DRINKING WATER VALIDATED TESTING RESULTS**

I am writing regarding the U.S. Navy's drinking water investigation around Naval Air Station (NAS) Whidbey Island's Ault Field and Outlying Landing Field (OLF) Coupeville. The process of validating your preliminary sampling results is complete. The validated sampling results indicate that the drinking water remains below the Environmental Protection Agency's (EPA) Lifetime Health Advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required for the community well at this time. We are providing residents serviced by this community well that are within the Navy's phase 1 sampling area a copy of this letter with the validated drinking water results. Please contact your customers that live outside of this sampling area to alleviate any concern those residents may have regarding their drinking water. Please find the validated test results of the community well attached here in Enclosures 1 and 2.

Following the distribution of preliminary result letters to residents, it was brought to our attention that we were not clear in explaining the difference between the various data reporting levels and laboratory abbreviations in the preliminary data report. This created unnecessary confusion and we sincerely apologize. The Navy is evaluating ways to report the data in the future that would be less confusing to residents, such as stating 'ND' (non-detect) when a result was not detected by the laboratory instrument. In the interim, please find the factsheet enclosed that will assist you in understanding your data package as it is reported at this time (see Enclosure 3).

The Navy is working in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to determine what additional actions are appropriate and to develop a long-term solution associated with PFOA and PFOS in other residents' drinking water resulting from NAS Whidbey Island activities. As the scientific community learns more, the EPA health advisory levels may change or additional standards may be developed by other federal, state, or local agencies. These

5726
Ser N46/1406
April 24, 2017

changes may necessitate additional actions to be taken by the Navy. If your property is affected by any future changes, we will contact you to coordinate any additional actions.

Please know that the health and safety of this community is a top priority for me and I am committed to keeping you informed on developments that may impact you and your neighbors. We will continue to update our public website, <http://go.usa.gov/xkMBc>, as information, research, and regulation from federal, state or local agencies evolve in order to keep residents informed about the investigation at NAS Whidbey Island. You may also reach out to Navy Public Affairs Officer, Leslie Yuenger, at (360) 396-6387 or by email at PAO_feedback@navy.mil with any questions.

Thank you for your time and cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "G. C. Moore", written over a large, stylized "X" mark.

G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Summary of Validated Data Results
2. Validated Data Report
3. Understanding your Data Package Factsheet



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726
Ser N46/2345
November 7, 2016

Town of Coupeville and Fort Casey Treatment Plant
Parcel No R13114 250 4610
PO Box 725
Coupeville WA 98239

Dear Property Owner:

The U.S. Navy is conducting a drinking water investigation around Naval Air Station (NAS) Whidbey Island's Ault Field and Outlying Landing Field (OLF) Coupeville in November and December of 2016 as a cautionary measure to ensure people living near our installations are not being exposed to certain chemicals in drinking water. The chemicals the Navy is testing for are per- and polyfluoroalkyl substances, commonly known as PFAS, which could be present in drinking water around both locations due to past uses of the fire-fighting agent called Aqueous Film Forming Foam (AFFF).

We tested and discovered PFAS in one drinking water well on OLF Coupeville which may be a result of former firefighting, lifesaving and emergency-response operations using AFFF. **Based on your property's proximity to OLF Coupeville there is a potential for PFAS to be present in the drinking water. We would like to sample all private drinking water wells in the sample area. We will also be coordinating with community water purveyors to sample water supply wells and the associated distribution system.**

PFAS are chemicals used in numerous commercial and industrial products that are of increasing national concern by the Environmental Protection Agency (EPA), Department of Defense, the Navy, and other federal and state agencies. In May 2016, the EPA released lifetime health advisory levels for two PFAS, specifically perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). The EPA established these levels to provide Americans with a margin of protection from a lifetime of exposure to PFOS and/or PFOA in drinking water.

We know this evolving issue may raise concerns and questions. We invite you to attend an Open House Public Meeting to learn more about the drinking water investigation at both Ault Field and OLF Coupeville. Property owners within the sampling area will be able to schedule a time to have their private drinking well sampled. Subject matter experts from the Navy and partnering agencies will be available to share information and answer your questions. Because there will not be a formal presentation, you are welcome to arrive at any time during the Open House. Listed below is the information on the Open House meetings:

Oak Harbor
Monday, November 21, 2016, 5:00 – 9:00 pm
Oak Harbor Elementary School - 151 SE Midway Blvd

5726
Ser N46/2345
November 7, 2016

Coupeville
Tuesday, November 22, 2016, 11:00 am – 2:00 pm & 5:00 – 9:00 pm
Camp Casey Conference Center - 1276 Engle Road

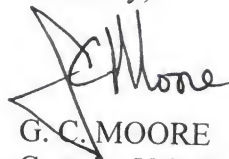
The Navy recently established a policy to ensure our neighbors are not exposed to drinking water impacted from a known or likely Navy PFAS release. These protective, voluntary actions are being taken to ensure our neighbors are not exposed to these chemicals in drinking water above the EPA health advisory levels. If your drinking water is found to contain PFOS and/or PFOA above the EPA health advisory level, the Navy will provide bottled water or an alternate water supply after receiving the preliminary analytical results. We will continue to provide alternate water until a long-term solution is in place.

The Navy is working in partnership with Region 10 U.S. EPA, Agency for Toxic Substances and Disease Registry, State of Washington Department of Health, and Island County Department of Public Health to ensure you and your family are not consuming drinking water impacted by the Navy with PFOS/PFOA above the EPA health advisory.

This letter is accompanied by three enclosures, one of which explains how your property was identified to be part of this investigation and information on how to schedule sampling. You can also find information on the web at: <http://go.usa.gov/xkMBc>. You may schedule drinking water sampling for your residence at either Open House, on November 21 or November 22, by leaving a voicemail at 360-396-1030, or by emailing the Navy's Public Affairs Office at PAO_Feedback@navy.mil.

We are committed to keeping you informed and we look forward to meeting you at an Open House.

Sincerely,



G. C. MOORE
Captain, U.S. Navy
Commanding Officer

- Enclosures:
1. NASWI Outlying Landing Field Coupeville Drinking Water Investigation Fact Sheet
 2. PFAS Drinking Water Sampling Information
 3. EPA PFOA/PFAS Health Advisory Fact Sheet



Naval Air Station Whidbey Island OLF Coupeville

Drinking Water Investigation

November 7, 2016

INTRODUCTION

The Navy has developed a protective policy to address past releases of per- and poly-fluoroalkyl substances, commonly known as PFAS, under the Navy Environmental Restoration Program. These substances may be present in the soil and/or groundwater at Navy sites as a result of historical fire fighting activities using aqueous film forming foam (AFFF), including response to plane crashes, equipment testing, and/or training, as well as other operations such as plating shops and hangars where AFFF was used in the fire suppression system. *Based on historical use of AFFF, there are two areas of PFAS investigation at Naval Air Station Whidbey Island (NASWI): Ault Field and Outlying Landing Field (OLF) Coupeville (see Figure 1).*

The Navy recognizes the potential for people to be exposed to drinking water impacted by our use of AFFF. Therefore, our first priority is to sample drinking water sources that are close to confirmed or potential AFFF releases. NASWI was identified for sampling under this Navy policy because PFAS have been found in the groundwater at Ault Field and drinking water at OLF Coupeville. The Navy is working in conjunction with Region 10 Environmental Protection Agency (EPA), Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to conduct drinking water investigations at Ault Field and OLF Coupeville. The Navy will continue to work with agencies until long-term solutions are implemented.

If your drinking water is found to contain PFAS above the EPA health advisory level, the Navy will provide alternate drinking water (for example, bottled water) until a long-term solution is implemented.

Figure 1



The Navy is conducting this voluntary measure to ensure we protect drinking water quality both on- and off-base. There is no legal requirement to conduct the planned drinking water testing.

This fact sheet focuses on the OLF Coupeville Drinking Water Investigation. ***The Navy is requesting access to sample all private drinking water wells within the phase 1 sample area near OLF Coupeville (Figure 2) and will be coordinating with the community water purveyors to sample the water supply wells in this area for those residents receiving their drinking water from a community system.*** A separate fact sheet is available with information on the NASWI Ault Field investigation.

OLF Coupeville Drinking Water Investigation

BACKGROUND

PFAS are man-made chemicals that have been used since the 1950s in many household and industrial products because of their stain- and water-repellant properties (for example, fabric in upholstered furniture, carpet, nonstick cookware, floor wax, and the lining of microwave popcorn bags). PFAS are now present virtually everywhere in the world because of the large amounts that have been manufactured and used. Once these compounds are released to the environment, they remain there for a long time.

PFAS are "emerging" contaminants, which have no Safe Drinking Water Act regulatory standards or routine water quality testing requirements. The EPA is currently studying PFAS to determine if regulation is needed.

In May 2016, the EPA announced lifetime health advisory levels for two PFAS, specifically perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). According to the EPA: **Health advisory levels are not regulatory standards. They are health-based concentrations which should offer a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOS and PFOA in drinking water.** The EPA health advisory level for lifetime exposure is 70 parts per trillion (ppt) for PFOS and 70 ppt for PFOA. When both PFOS and PFOA are found in drinking water, the combined concentrations should not exceed 70 ppt.

The drinking water investigation for OLF Coupeville will focus on PFOS and PFOA because these are the only PFAS for which the EPA has established a health advisory level in drinking water.

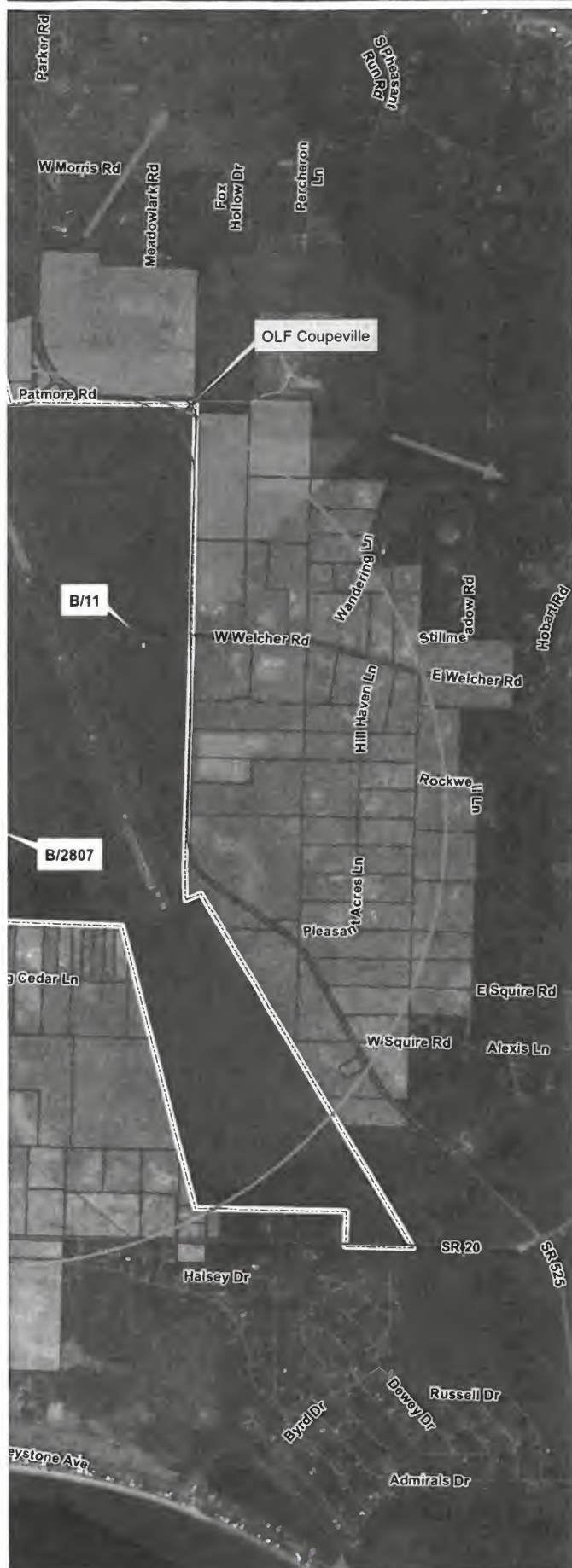
INVESTIGATION

There is no historical documentation that AFFF was used at OLF Coupeville; however, PFOA was detected in one of the on-base drinking water well locations sampled in September 2016. This detection was below the EPA's lifetime health advisory; however, it indicates a potential previous release of AFFF near building 2807 (see Figure 2).

There is significant uncertainty regarding groundwater flow direction at the site because the Navy has not conducted previous groundwater investigations at OLF Coupeville. The only information regarding PFOS/PFOA in groundwater at OLF Coupeville is from two drinking water samples collected from building 2807 and building 11. Since the only detection was from the well at building 2807, the Navy plans to use that building as the center point to draw a 1-mile radius to initiate off-base drinking water sampling following Navy policy. This designated sampling area (Figure 2) includes more than 350 properties. Drinking water in this area is supplied by private drinking water wells and community well fields, which provide drinking water to multiple properties.

Figure 2





With permission, the Navy would like to sample all drinking water wells in the designated sampling area. The Navy is seeking the public's assistance to identify all drinking water wells within the sampling area.

If your property is within the designated sampling area and you have a drinking water well on your property, you may schedule sampling of your well at the Open House or by leaving a voicemail at 360-396-1030 or emailing the Navy's Public Affairs Office at PAO_Feedback@navy.mil.

The Navy also plans to install and sample 16–20 on-base groundwater monitoring wells at OLF Coupeville (exact locations still under development). Groundwater monitoring is needed to give the Navy sufficient data to determine where PFOS/PFOA is present in the groundwater at OLF Coupeville and to determine the groundwater flow direction.

Representatives from the Navy, EPA, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health will be available at the Open House Public Meetings to discuss this important project.

Please attend at any time during one of the following meetings to have your questions answered.

Oak Harbor

Monday, November 21, 2016, 5–9 p.m.

Oak Harbor Elementary School, 151 SE Midway Blvd

Coupeville

Tuesday, November 22, 2016, 11 a.m.–2 p.m. and 5–9 p.m.

Camp Casey Conference Center, 1276 Engle Road

FOR MORE INFORMATION





www.secnav.navy.mil/eie/pages/pfc-pfas.aspx

The Navy has established the following website to keep you updated as more information becomes available:

<http://go.usa.gov/xkMBc>

You may schedule drinking water sampling for your residence by leaving a voicemail at **360-396-1030** or by sending an email to PAO_feedback@navy.mil.

Legend

-  OLF Coupeville Supply Well
-  Assumed Regional Groundwater Flow Direction
-  Phase 1 Sample Areas
-  OLF Coupeville 1-mile zone
-  Base Boundary

ACTIONS BASED ON RESULTS

Results from drinking water sampling are expected in early 2017. The Navy will provide notification to each property owner of their personal drinking water results and follow-up actions if needed. We will keep the results confidential to the greatest extent possible.

The EPA recommends that water containing PFOS and/or PFOA above the health advisory levels not be used for drinking or cooking. If your drinking water is found to contain PFOS and/or PFOA above the EPA health advisory level, the Navy will provide bottled water or an alternate water supply after receiving the preliminary analytical results. The Navy will continue to provide the alternate water source until a long-term solution is implemented.

The phase 1 sampling area, as shown on Figure 2, may be expanded in one or more directions in the future depending on the results.

HEALTH INFORMATION

Exposure to PFOS and PFOA appears to be global. Studies have found both compounds in the blood samples of the general population. Studies on exposed populations indicate that PFOS and/or PFOA may cause elevated cholesterol levels and possibly low infant birth weight. When laboratory studies give rats or mice large doses, they exhibit developmental, reproductive, and liver effects. Other studies suggest a link with certain cancers.

Health effects from exposure to low levels of PFAS are not well known and studies are continuing. At this time, it is not possible to link exposures to PFOS and/or PFOA to a person's individual health issues. Blood tests are available to measure these chemicals, but they are not routinely done because the results can be inconclusive and test results do not predict health effects. Long-term exposure effects are still being investigated by the EPA.

Consuming water above the EPA lifetime health advisory level may be a health concern.

PFOS/PFOA Drinking Water Sampling

Frequently Asked Questions

How do I schedule the sampling? Property owners within the designated sampling area can call **360-396-1030** to schedule a sampling appointment. Sampling appointments can also be scheduled in person at the Open House Public Meetings. The meetings will be held on:

- Monday, November 21, 2016, Oak Harbor Elementary, 151 SE Midway Blvd, from 5 to 9 pm
- Tuesday, November 22, 2016 at Camp Casey, 1276 Engle Road, Coupeville, from 11 am to 2 pm, and from 5 to 9 pm

How do I return the Homeowner Questionnaire? The questionnaire can be returned to the Navy at any of the Open House Public Meetings, mailed to Public Affairs, Naval Facilities Engineering Command Northwest, 1101 Tautog Circle, Room 203, Silverdale WA, 98315, or emailed to the Navy's Public Affairs Office at PAO_Feedback@navy.mil.


What are the dates and times for sampling? The sampling will be conducted from November 28, 2016 – December 21, 2016. Sampling appointments will be available between the hours of 9 am to 7 pm, Monday – Friday, and 9 am to 1 pm on Saturday. There will be no sampling appointments on December 4, 11, or 18, 2016. Accommodations can be made for property owners who may not be available during the regularly scheduled sampling times.

Who will be taking the sample? A team of two Navy-contracted professional environmental samplers will collect the sample. An adult resident (18 years of age or older) must be present during the sampling.

How long will the sampling take? The sampling will take approximately 30 minutes. The Navy representatives will take a sample from the closest spigot to your well, preferably from a spigot that does not receive any in-home treatment. If there is no outside access, the sample will be collected from a faucet in your home. The team will measure and record basic information about the water (e.g., pH and temperature), and will review the homeowner questionnaire.

When will I receive the results? The results are expected early-January 2017, depending on when the sample was obtained. The Navy will provide private notification of your results. If your drinking water is found to contain PFOS and/or PFOA above the EPA health advisory levels, the Navy will contact you in person to arrange for alternate water (e.g., bottled water) for drinking and cooking in your home until a long-term solution can be implemented. If your drinking water is found to contain PFOS and /or PFOA below the EPA health advisory levels, you will be contacted and informed of these results.

Will my results be private? All results will be confidential to the greatest extent possible. You will receive your results and all references to results in official reports or in documents that will have a random number associated with your drinking water sample. Reports and documents will not contain your name or address. The Navy will not share any personal information that you provide, such as name, address, email, or phone number.



Overview

EPA has established health advisories for PFOA and PFOS based on the agency's assessment of the latest peer-reviewed science to provide drinking water system operators, and state, tribal and local officials who have the primary responsibility for overseeing these systems, with information on the health risks of these chemicals, so they can take the appropriate actions to protect their residents. EPA is committed to supporting states and public water systems as they determine the appropriate steps to reduce exposure to PFOA and PFOS in drinking water. As science on health effects of these chemicals evolves, EPA will continue to evaluate new evidence.

Background on PFOA and PFOS

PFOA and PFOS are fluorinated organic chemicals that are part of a larger group of chemicals referred to as perfluoroalkyl substances (PFASs). PFOA and PFOS have been the most extensively produced and studied of these chemicals. They have been used to make carpets, clothing, fabrics for furniture, paper packaging for food and other materials (e.g., cookware) that are resistant to water, grease or stains. They are also used for firefighting at airfields and in a number of industrial processes.

Because these chemicals have been used in an array of consumer products, most people have been exposed to them. Between 2000 and 2002, PFOS was voluntarily phased out of production in the U.S. by its primary manufacturer. In 2006, eight major companies voluntarily agreed to phase out their global production of PFOA and PFOA-related chemicals, although there are a limited number of ongoing uses. Scientists have found PFOA and PFOS in the blood of nearly all the people they tested, but these studies show that the levels of PFOA and PFOS in blood have been decreasing. While consumer products and food are a large source of exposure to these chemicals for most people, drinking water can be an additional source in the small percentage of communities where these chemicals have contaminated water supplies. Such contamination is typically localized and associated with a specific facility, for example, an industrial facility where these chemicals were produced or used to manufacture other products or an airfield at which they were used for firefighting.

EPA's 2016 Lifetime Health Advisories

EPA develops health advisories to provide information on contaminants that can cause human health effects and are known or anticipated to occur in drinking water. EPA's health advisories are non-enforceable and non-regulatory and provide technical information to states agencies and other public health officials on health effects, analytical methodologies, and treatment technologies associated with drinking water contamination. In 2009, EPA published provisional health advisories for PFOA and PFOS based on the evidence available at that time. The science has evolved since then and EPA is now replacing the 2009 provisional advisories with new, lifetime health advisories.

FACT SHEET

PFOA & PFOS Drinking Water Health Advisories

EPA's 2016 Lifetime Health Advisories, continued

To provide Americans, including the most sensitive populations, with a margin of protection from a lifetime of exposure to PFOA and PFOS from drinking water, EPA established the health advisory levels at 70 parts per trillion. When both PFOA and PFOS are found in drinking water, the combined concentrations of PFOA and PFOS should be compared with the 70 parts per trillion health advisory level. This health advisory level offers a margin of protection for all Americans throughout their life from adverse health effects resulting from exposure to PFOA and PFOS in drinking water.

How the Health Advisories were developed

EPA's health advisories are based on the best available peer-reviewed studies of the effects of PFOA and PFOS on laboratory animals (rats and mice) and were also informed by epidemiological studies of human populations that have been exposed to PFASs. These studies indicate that exposure to PFOA and PFOS over certain levels may result in adverse health effects, including developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations), cancer (e.g., testicular, kidney), liver effects (e.g., tissue damage), immune effects (e.g., antibody production and immunity), thyroid effects and other effects (e.g., cholesterol changes).

EPA's health advisory levels were calculated to offer a margin of protection against adverse health effects to the most sensitive populations: fetuses during pregnancy and breastfed infants. The health advisory levels are calculated based on the drinking water intake of lactating women, who drink more water than other people and can pass these chemicals along to nursing infants through breastmilk.

Recommended Actions for Drinking Water Systems

Steps to Assess Contamination

If water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should quickly undertake additional sampling to assess the level, scope and localized source of contamination to inform next steps

Steps to Inform

If water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than 70 parts per trillion, water systems should promptly notify their State drinking water safety agency (or with EPA in jurisdictions for which EPA is the primary drinking water safety agency) and consult with the relevant agency on the best approach to conduct additional sampling.

Drinking water systems and public health officials should also promptly provide consumers with information about the levels of PFOA and PFOS in their drinking water. This notice should include specific information on the risks to fetuses during pregnancy and breastfed and formula-fed infants from exposure to drinking water with an individual or combined concentration of PFOA and PFOS above EPA's health advisory level of 70 parts per trillion. In addition, the notification should include actions they are taking and identify options that consumers may consider to reduce risk such as seeking an alternative drinking water source, or in the case of parents of formula-fed infants, using formula that does not require adding water.

FACT SHEET

PFOA & PFOS Drinking Water Health Advisories

Recommended Actions for Drinking Water Systems, continued

Steps to Limit Exposure

A number of options are available to drinking water systems to lower concentrations of PFOA and PFOS in their drinking water supply. In some cases, drinking water systems can reduce concentrations of perfluoroalkyl substances, including PFOA and PFOS, by closing contaminated wells or changing rates of blending of water sources. Alternatively, public water systems can treat source water with activated carbon or high pressure membrane systems (e.g., reverse osmosis) to remove PFOA and PFOS from drinking water. These treatment systems are used by some public water systems today, but should be carefully designed and maintained to ensure that they are effective for treating PFOA and PFOS. In some communities, entities have provided bottled water to consumers while steps to reduce or remove PFOA or PFOS from drinking water or to establish a new water supply are completed.

Home drinking water treatment units are typically certified by independent third party organizations against American National Standards Institute (ANSI) standards to verify their contaminant removal claims. Some home filters remove impurities using activated carbon and reverse osmosis, which are the same technologies utilized by public water supply systems to remove PFOA and PFOS. However, there currently are no ANSI protocols for testing home treatment systems to verify that these devices effectively remove PFOA and PFOS or how frequently the filters should be changed in order to maintain removal efficiency. NSF International is currently developing such protocols.

Other Actions Relating to PFOA and PFOS

Between 2000 and 2002, PFOS was voluntarily phased out of production in the U.S. by its primary manufacturer, 3M. EPA also issued regulations to limit future manufacturing, including importation, of PFOS and its precursors, without first having EPA review the new use. A limited set of existing uses for PFOS (fire resistant aviation hydraulic fluids, photography and film products, photomicro lithography process to produce semiconductors, metal finishing and plating baths, component of an etchant) was excluded from these regulations because these uses were ongoing and alternatives were not available.

In 2006, EPA asked eight major companies to commit to working toward the elimination of their production and use of PFOA, and chemicals that degrade to PFOA, from emissions and products by the end of 2015. All eight companies have indicated that they have phased out PFOA, and chemicals that degrade to PFOA, from emissions and products by the end of 2015. Additionally, PFOA is included in EPA's proposed Toxic Substance Control Act's Significant New Use Rule (SNUR) issued in January 2015 which will ensure that EPA has an opportunity to review any efforts to reintroduce the chemical into the marketplace and take action, as necessary, to address potential concerns.

EPA has not established national primary drinking water regulations for PFOA and PFOS. EPA is evaluating PFOA and PFOS as drinking water contaminants in accordance with the process required by the Safe Drinking Water Act (SDWA). To regulate a contaminant under SDWA, EPA must find that it: (1) may have adverse health effects; (2) occurs frequently (or there is a substantial likelihood that it occurs frequently) at levels of public health concern; and (3) there is a meaningful opportunity for health risk reduction for people served by public water systems.

FACT SHEET

PFOA & PFOS Drinking Water Health Advisories

Other Actions Relating to PFOA and PFOS, continued

EPA included PFOA and PFOS among the list of contaminants that water systems are required to monitor under the third Unregulated Contaminant Monitoring Rule (UCMR 3) in 2012. Results of this monitoring effort are updated regularly and can be found on the publicly-available National Contaminant Occurrence Database (NCOD) (<https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule#3>). In accordance with SDWA, EPA will consider the occurrence data from UCMR 3, along with the peer reviewed health effects assessments supporting the PFOA and PFOS Health Advisories, to make a regulatory determination on whether to initiate the process to develop a national primary drinking water regulation.

In addition, EPA plans to begin a separate effort to determine the range of PFAS for which an Integrated Risk Information System (IRIS) assessment is needed. The IRIS Program identifies and characterizes the health hazards of chemicals found in the environment. IRIS assessments inform the first two steps of the risk assessment process: hazard identification, and dose-response. As indicated in the 2015 IRIS Multi-Year Agenda, the IRIS Program will be working with other EPA offices to determine the range of PFAS compounds and the scope of assessment required to best meet Agency needs. More about this effort can be found at <https://www.epa.gov/iris/iris-agenda>.

Where Can I Learn More?

- EPA's Drinking Water Health Advisories for PFOA and PFOS can be found at: <https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos>
- PFOA and PFOS data collected under EPA's Unregulated Contaminant Monitoring Rule are available: <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>
- EPA's stewardship program for PFAS related to TSCA: <https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/and-polyfluoroalkyl-substances-pfass-under-tsca>
- EPA's research activities on PFASs can be found at: <http://www.epa.gov/chemical-research/perfluorinated-chemical-pfc-research>
- The Agency for Toxic Substances and Disease Registry's Perfluorinated Chemicals and Your Health webpage at: <http://www.atsdr.cdc.gov/PFC/>





DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726
Ser N46/1425
May 23, 2018

Town of Coupeville and Fort Casey Treatment Plant
Parcel No R13114-250-4610
PO Box 725
Coupeville, WA 98239

RECEIVED

MAY 31 2018

TOWN OF COUPEVILLE

Dear Property Owner:

SUBJECT: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULT FIELD
DRINKING WATER TESTING RESULTS

I am writing you regarding the U.S. Navy's drinking water investigation around Naval Air Station (NAS) Whidbey Island's Ault Field and Outlying Landing Field (OLF) Coupeville to inform you that we received the preliminary sampling results for your community well. The preliminary sampling results indicate that the drinking water remains below the Environmental Protection Agency's (EPA) Lifetime Health Advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required for the community well at this time. We are providing residents serviced by this community well a copy of this letter with the preliminary drinking water results.

As an extra precaution, these preliminary results are going through a subsequent validation process to confirm their accuracy. Because validation of results can take several weeks to complete, we wanted to share the preliminary testing results immediately to keep you informed of the process every step of the way. Please find the detailed preliminary test results of your residence's drinking water attached here in Enclosures 1 and 2. Please find a handout enclosed that will assist you in understanding your laboratory analytical results (see Enclosure 3). We will follow up with the validated results as soon as that process is complete.

The Navy is working in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to determine what additional actions are appropriate and to develop a long-term solution associated with PFOA and PFOS in other residents' drinking water resulting from NAS Whidbey Island activities. As the scientific community learns more, the EPA health advisory levels may change or additional standards may be developed by other federal, state, or local agencies. These changes may necessitate additional actions to be taken by the Navy. If your property is affected by any future changes, we will contact you to coordinate any additional actions.

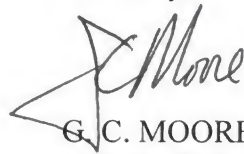
Please know that the health and safety of this community is a top priority for me and I am committed to keeping you informed on developments that may impact you and your neighbors.

5726
Ser N46/1425
May 23, 2018

We will continue to update our public website, <http://go.usa.gov/xkMBc>, as information, research, and regulation from federal, state or local agencies evolve in order to keep residents informed about the investigation at NAS Whidbey Island. You may also reach out to the Navy Public Affairs Officer, Ms. Leslie Yuenger, at (360) 396-6387 or by email at PAO_feedback@navy.mil with any questions.

Thank you for your time and cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "G.C. Moore". The signature is written over a large, stylized star or "X" shape.

G.C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Summary of Preliminary Data Results
2. Preliminary Data Report
3. Understanding Data Packages

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT
 KEYSTONE HILL WELL (WELL 108)
 COUPEVILLE, WA 98239
 WI-CV-1RW23-0318
 Date Collected: 3/23/2018
 Time Collected: 09:25
 Preliminary Results Provided: May 23, 2018

RECEIVED
 MAY 31 2018
 TOWN OF COUPEVILLE

Below are the preliminary test results for your drinking water sampled on March 23, 2018. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	62.3	70
PFOS and PFOA (cumulative) ¹	62.3	70

¹ Only detected values of PFOS and PFOA are summed.

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	12.3	Not applicable
Perfluorohexanoic acid (PFHxA)	35.7	Not applicable
Perfluoroheptanoic acid (PFHpA)	9.99	Not applicable
Perfluorohexane sulfonate (PFHxS)	53.3	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Sample ID: W1-CV-1RW23-0318

EPA Method 537									
Client Data			Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800571-05	Batch	Extracted	Samp Size	Analyzed
Project:	CTO-4041 Navy Clean NASWI	Date Collected:	23-Mar-18 09:25	Date Received:	27-Mar-18 09:39				Column: BEH C18
Location:	DW								
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBS	12.3	0.435	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFHxA	35.7	0.855	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFHpA	9.99	0.523	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFHxS	53.3	0.407	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFOA	62.3	1.06	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFNA	NID	1.41	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFOS	NID	1.02	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFDA	NID	1.26	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
MeFOSAA	NID	2.98	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
EtFOSAA	NID	1.89	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFUnA	NID	0.250	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFDoA	NID	0.934	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFTTrDA	NID	0.925	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
PFTeDA	NID	0.762	4.90	9.81		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	102	70 - 130		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30	1
13C2-PFDA	SURR	106	70 - 130		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30	1
d5-EtFOSAA	SURR	83.1	70 - 130		B8C0184	29-Mar-18	0.255 L	03-Apr-18 16:30	1
DL - Detection Limit		LOD - Limit of Detection		When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.					
		L.OQ - Limit of quantitation		Only the linear isomer is reported for all other analytes.					

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

LCL-UCL- Lower control limit - upper control limit
Results reported to the DL.

LOD - Limit of Detection
LOQ - Limit of quantitation

DL - Detection Limit

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT
WELL 487
COUPEVILLE, WA 98239
WI-CV-1RW24-0318
Date Collected: 3/23/2018
Time Collected: 09:00
Preliminary Results Provided: May 23, 2018

RECEIVED

MAY 31 2018

TOWN OF COUPEVILLE

Below are the **preliminary** test results for your drinking water sampled on March 23, 2018. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	ND	Not applicable
Perfluorohexanoic acid (PFHxA)	ND	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Sample ID: WI-CV-1RW24-0318

EPA Method 537

Client Data			Laboratory Data							
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800571-07	Column:	BEH C18			
Project:	CTO-4041 Navy Clean NASWI	Date Collected:	23-Mar-18 09:00	Date Received:	27-Mar-18 09:39					
Location:	DW									
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.437	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFHxA	ND	0.860	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFHpA	ND	0.526	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFHxS	ND	0.410	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFOA	ND	1.07	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFNA	ND	1.42	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFOS	ND	1.03	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFDA	ND	1.26	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
MeFOSAA	ND	3.00	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
EtFOSAA	ND	1.91	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFUnA	ND	0.252	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFDoA	ND	0.940	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFTtDA	ND	0.931	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
PFTeDA	ND	0.767	4.94	9.88		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	94.8	70 - 130		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1	
13C2-PFDA	SURR	112	70 - 130		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1	
d5-EtFOSAA	SURR	84.7	70 - 130		B8C0184	29-Mar-18	0.253 L	03-Apr-18 16:55	1	

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

LCL-UCL:- Lower control limit - upper control limit
Results reported to the DL.

LOD - Limit of Detection
LOQ - Limit of quantitation

DL - Detection Limit

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT
 WELL 106
 COUPEVILLE, WA 98239
 WI-CV-1RW25-0318
 Date Collected: 3/23/2018
 Time Collected: 08:30
 Preliminary Results Provided: May 23, 2018

RECEIVED
 MAY 31 2018
 TOWN OF COUPEVILLE

Below are the **preliminary** test results for your drinking water sampled on March 23, 2018. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	1.39 J	Not applicable
Perfluorohexanoic acid (PFHxA)	1.20 J	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Sample ID: WI-CV-1RW25-0318

EPA Method 537

Client Data				Laboratory Data							
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800571-09	Column:	BEH C18				
Project:	CTO-4041 Navy Clean NASW1	Date Collected:	23-Mar-18 08:30	Date Received:	27-Mar-18 09:39						
Location:	DW										
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	1.39	0.436	4.92	9.84	J	B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFHxA	1.20	0.857	4.92	9.84	J	B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFHpA	ND	0.524	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFHxS	ND	0.408	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFOA	ND	1.06	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFNA	ND	1.42	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFOS	ND	1.02	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFDA	ND	1.26	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
MeFOSAA	ND	2.99	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
EtFOSAA	ND	1.90	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFUnA	ND	0.251	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFDoA	ND	0.936	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFTtDA	ND	0.928	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
PFTcDA	ND	0.764	4.92	9.84		B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers		Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	86.8	70 - 130			B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
13C2-PFDA	SURR	97.1	70 - 130			B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	
d5-EtFOSAA	SURR	85.3	70 - 130			B8C0184	29-Mar-18	0.254 L	03-Apr-18 17:19	1	

DL - Detection Limit

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-UCL - Lower control limit - upper control limit
Results reported to the DL.

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT
 WELL 190
 COUPEVILLE, WA 98239
 WI-CV-1RW26-0318
 Date Collected: 3/23/2018
 Time Collected: 08:15
 Preliminary Results Provided: May 23, 2018

RECEIVED
 MAY 31 2018
 TOWN OF COUPEVILLE

Below are the **preliminary** test results for your drinking water sampled on March 23, 2018. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	March 2018	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	0.513 J	Not applicable
Perfluorohexanoic acid (PFHxA)	ND	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Sample ID: WI-CV-IRW26-0318

EPA Method 537

Client Data				Laboratory Data				EPA Method 537			
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1800572-01	Column:	BEH C18				
Project:	CTO-4041 Navy Clean NASWI	Date Collected:	23-Mar-18 08:15	Date Received:	27-Mar-18 09:39						
Location:	DW										
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	0.513	0.437	4.92	9.85	J	B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFHxA	ND	0.858	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFHpA	ND	0.525	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFHxS	ND	0.409	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFOA	ND	1.06	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFNA	ND	1.42	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFOS	ND	1.02	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFTA	ND	1.26	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
MeFOSAA	ND	3.00	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
EtFOSAA	ND	1.90	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFUnA	ND	0.251	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFDoA	ND	0.938	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFTrDA	ND	0.929	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
PFTeDA	ND	0.766	4.92	9.85		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C2-PFHxA	SURR	97.0	70 - 130		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1		
13C2-PFTA	SURR	103	70 - 130		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1		
d5-EtFOSAA	SURR	86.5	70 - 130		B8C0184	29-Mar-18	0.254 L	03-Apr-18 10:59	1		

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of Quantitation

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-UCL - Lower control limit - upper control limit
Results reported to the DL.

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

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504 E Sprague Ste. D • Spokane WA 99202 • (509) 838-3999 • Fax (509) 838-4433 • email spokane@anateklabs.com

Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: JOSEPH GROGAN

Batch #: 180907038
Project Name: 962018

Analytical Results Report

Sample Number	180907038-001	Sampling Date	9/6/2018	Date/Time Received	9/7/2018 1:00 PM
Client Sample ID	DIST	Sampling Time	10:00 AM	Extraction Date	9/19/2018
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.025	0.09	9/24/2018	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	<0.005	ug/L	0.005	0.01	9/24/2018	TGT	EPA 537	J
Perfluorohexanesulfonic acid - PFHxS	0.0199	ug/L	0.005	0.03	9/24/2018	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.005	0.02	9/24/2018	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	0.04	9/24/2018	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0341	ug/L	0.005	0.02	9/24/2018	TGT	EPA 537	

Sample Number	180907038-002	Sampling Date	9/6/2018	Date/Time Received	9/7/2018 1:00 PM
Client Sample ID	WELL 1-08	Sampling Time	10:30 AM	Extraction Date	9/19/2018
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.025	0.09	9/24/2018	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	0.0104	ug/L	0.005	0.01	9/24/2018	TGT	EPA 537	
Perfluorohexanesulfonic acid - PFHxS	0.0580	ug/L	0.005	0.03	9/24/2018	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.005	0.02	9/24/2018	TGT	EPA 537	
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	0.04	9/24/2018	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0706	ug/L	0.005	0.02	9/24/2018	TGT	EPA 537	

Certifications held by Anatek Labs ID: EPA:ID00013; AZ:0701; FL(NELAP):E87893; ID:ID00013; MT:CERT0028; NM: ID00013; NV:ID00013; OR:ID200001-002; WA:C595
Certifications held by Anatek Labs WA: EPA:WA00169; ID:WA00169; WA:C585; MT:Cert0095; FL(NELAP): E871099

Tuesday, September 25, 2018

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TOWN OF COUPEVILLE

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
 COUPEVILLE, WA 98239
Attn: JOSEPH GROGAN


Batch #: 180326034
Project Name: EPA 537

Analytical Results Report

Sample Number	180326034-002	Sampling Date	3/23/2018	Date/Time Received	3/26/2018 9:52 AM
Client Sample ID	DIST	Sampling Time	9:40 AM	Extraction Date	4/4/2018
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.025	0.09	4/10/2018	TGT	EPA 537	
✓ Perfluoroheptanoic acid - PFHpA	0.00607	ug/L	0.005	0.01	4/10/2018	TGT	EPA 537	J
✓ Perfluorohexanesulfonic acid - PFHxS	0.0356	ug/L	0.005	0.03	4/10/2018	TGT	EPA 537	
✓ Perfluorononanoic acid - PFNA	ND	ug/L	0.005	0.02	4/10/2018	TGT	EPA 537	
✓ Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.01	0.04	4/10/2018	TGT	EPA 537	
✓ Perfluorooctanoic acid - PFOA	0.0374	ug/L	0.005	0.02	4/10/2018	TGT	EPA 537	

Authorized Signature



Kathleen A. Sattler, Lab Manager

J The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
 MCL EPA's Maximum Contaminant Level
 ND Not Detected
 PQL Practical Quantitation Limit

This report shall not be reproduced except in full, without the written approval of the laboratory.
 The results reported relate only to the samples indicated.
 Soil/solid results are reported on a dry-weight basis unless otherwise noted.

Certifications held by Anatek Labs ID: EPA ID00013; AZ 0701; FL(NELAP) E87893; ID ID00013; MT CERT0028; NM ID00013; NV ID00013; OR ID200001-002; WA C595
 Certifications held by Anatek Labs WA EPA WA00169; ID WA00169; WA C585; MT Cert0095; FL(NELAP) E871099

Friday, April 13, 2018

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TOWN OF COUPEVILLE

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
 COUPEVILLE, WA 98239
Attn: JOSEPH GROGAN

Batch #: 180326034
Project Name: EPA 537

Analytical Results Report

Sample Number	180326034-001	Sampling Date	3/23/2018	Date/Time Received	3/26/2018 9:52 AM
Client Sample ID	WELL 1-08	Sampling Time	9:30 AM	Extraction Date	4/4/2018
Matrix	Drinking Water	Sample Location			
Comments					

Parameter	Result	Units	MDL	PQL	Analysis Date	Analyst	Method	Qualifier
Perfluorobutanesulfonic acid - PF _{BS}	ND	ug/L	0.025	0.09	4/10/2018	TGT	EPA 537	
Perfluoroheptanoic acid - PFHpA	0.0111	ug/L	0.005	0.01	4/10/2018	TGT	EPA 537	
Perfluorohexanesulfonic acid - PF _{HXS}	0.0567	ug/L	0.005	0.03	4/10/2018	TGT	EPA 537	
Perfluorononanoic acid - PFNA	ND	ug/L	0.005	0.02	4/10/2018	TGT	EPA 537	
Perfluorooctanesulfonic acid - PF _{OS}	ND	ug/L	0.01	0.04	4/10/2018	TGT	EPA 537	
Perfluorooctanoic acid - PFOA	0.0640	ug/L	0.005	0.02	4/10/2018	TGT	EPA 537	

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Client: TOWN OF COUPEVILLE
Address: P.O. BOX 725
COUPEVILLE, WA 98239
Attn: JOSEPH GROGAN

Batch #: 180326034
Project Name: EPA 537

Analytical Results Report Quality Control Data

Lab Control Sample

Parameter	LCS Result	Units	LCS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
Perfluorooctanoic acid - PFOA	0.0214	ug/L	0.02	107.0	50-150	4/4/2018	4/10/2018
Perfluorooctanesulfonic acid - PFOS	0.0407	ug/L	0.04	101.8	50-150	4/4/2018	4/10/2018
Perfluorononanoic acid - PFNA	0.0234	ug/L	0.02	117.0	50-150	4/4/2018	4/10/2018
Perfluorohexanesulfonic acid - PFHxS	0.0313	ug/L	0.03	104.3	50-150	4/4/2018	4/10/2018
Perfluoroheptanoic acid - PFHpA	0.0107	ug/L	0.01	107.0	50-150	4/4/2018	4/10/2018
Perfluorobutanesulfonic acid - PFBS	0.0737	ug/L	0.09	81.9	50-150	4/4/2018	4/10/2018

Matrix Spike

Sample Number	Parameter	Sample Result	MS Result	Units	MS Spike	%Rec	AR %Rec	Prep Date	Analysis Date
180326034-002	Perfluorooctanoic acid - PFOA	0.0374	0.112	ug/L	0.08	93.3	70-130	4/4/2018	4/10/2018
180326034-002	Perfluorooctanesulfonic acid - PFOS	ND	0.154	ug/L	0.16	96.3	70-130	4/4/2018	4/10/2018
180326034-002	Perfluorononanoic acid - PFNA	ND	0.0874	ug/L	0.08	109.3	70-130	4/4/2018	4/10/2018
180326034-002	Perfluorohexanesulfonic acid - PFHxS	0.0356	0.144	ug/L	0.12	90.3	70-130	4/4/2018	4/10/2018
180326034-002	Perfluoroheptanoic acid - PFHpA	0.00607	0.0472	ug/L	0.04	102.8	70-130	4/4/2018	4/10/2018
180326034-002	Perfluorobutanesulfonic acid - PFBS	ND	0.299	ug/L	0.36	83.1	70-130	4/4/2018	4/10/2018

Method Blank

Parameter	Result	Units	PQL	Prep Date	Analysis Date
Perfluorobutanesulfonic acid - PFBS	ND	ug/L	0.09	4/4/2018	4/10/2018
Perfluoroheptanoic acid - PFHpA	ND	ug/L	0.01	4/4/2018	4/10/2018
Perfluorohexanesulfonic acid - PFHxS	ND	ug/L	0.03	4/4/2018	4/10/2018
Perfluorononanoic acid - PFNA	ND	ug/L	0.02	4/4/2018	4/10/2018
Perfluorooctanesulfonic acid - PFOS	ND	ug/L	0.04	4/4/2018	4/10/2018
Perfluorooctanoic acid - PFOA	ND	ug/L	0.02	4/4/2018	4/10/2018

AR Acceptable Range
ND Not Detected
PQL Practical Quantitation Limit
RPD Relative Percentage Difference

Comments: SAMPLES SUBCONTRACTED TO ANATEK-M

Certifications held by Anatek Labs ID: EPA ID00013, AZ 0701, FL(NELAP) E87893, ID ID00013, MT CERT0028, NM: ID00013, NV ID00013, OR ID200001-002, WA C595
Certifications held by Anatek Labs WA: EPA WA00169, ID WA00169, WA C585, MT Cert0095, FL(NELAP): E871099

Friday, April 13, 2018

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Login Report

Customer Name: TOWN OF COUPEVILLE

Order ID: 180326034

P.O. BOX 725

Order Date: 3/26/2018

COUPEVILLE

WA

98239

Contact Name: JOSEPH GROGAN

Project Name: EPA 537

Comment: SAMPLES SUBCONTRACTED TO ANATEK-M

Sample #: 180326034-001 **Customer Sample #:** WELL 1-08

Recv'd: ☒ **Matrix:** Drinking Water **Collector:** JOSEPH GROGAN

Date Collected: 3/23/2018

Quantity: 3 **Date Received:** 3/26/2018 9:52:00 AM

Time Collected: 9:30 AM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	4/5/2018	<u>Normal (~10 Days)</u>

Sample #: 180326034-002 **Customer Sample #:** DIST

Recv'd: ☒ **Matrix:** Drinking Water **Collector:** JOSEPH GROGAN

Date Collected: 3/23/2018

Quantity: 3 **Date Received:** 3/26/2018 9:52:00 AM

Time Collected: 9:40 AM

Comment:

Test	Lab	Method	Due Date	Priority
UCMR 537	M	EPA 537	4/5/2018	<u>Normal (~10 Days)</u>

SAMPLE CONDITION RECORD

Samples received in a cooler?	Yes
Samples received intact?	Yes
What is the temperature of the sample(s)? (°C)	12.2/12.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all sample bottles properly preserved?	Yes
Labels and chain agree?	Yes
Total number of containers?	6



Chain of Custody - Drinking Water Analysis

WATER SYSTEM		Town of Coupeville	
SEND REPORT TO		Joseph Grogan	
ADDRESS		PO Box 725	
CITY STATE ZIP		Coupeville WA 98239	
Water System #		15550	
Phone Number		(360)914-0314	
Fax Number		utilities1@townofcoupeville.org	
County		Island	
Public Water System Jurisdiction A copy of the report to be sent to:			
Sample Type		Sample Purpose	
<input checked="" type="checkbox"/> Raw Water	<input type="checkbox"/> Compliance		
<input type="checkbox"/> Distribution	<input checked="" type="checkbox"/> Investigative		
<input type="checkbox"/> Plant Tap	<input type="checkbox"/> Other Purpose		
Sample Collection Location			
Well 1-08			
Well Tag #		Date & Time Collected	
W242 1-08		3/23/18 0930	
Sampler Name		Sampler Signature	
Grogan			
Check Desired Analyses			
IOCs		VOCs & DBPs	
<input type="checkbox"/> Sodium <input type="checkbox"/> Fluoride <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite		<input type="checkbox"/> VOC	
<input type="checkbox"/> Phase II IOC Metals		<input type="checkbox"/> TTHM	
<input type="checkbox"/> Phase V IOC Metals		<input type="checkbox"/> HAA5	
<input type="checkbox"/> Primary IOC Package with Cn Waiver		<input type="checkbox"/> TOC	
<input type="checkbox"/> Secondary/Optional IOC Package			
<input type="checkbox"/> Complete IOC Package			
<input type="checkbox"/> Cyanide			
<input type="checkbox"/> Asbestos		RADs	
		<input type="checkbox"/> Gross Alpha	
		<input type="checkbox"/> Gross Beta	
		<input type="checkbox"/> RAD 226	
		<input type="checkbox"/> RAD 228	
		<input type="checkbox"/> Uranium	
Customer Signature		SOCs	
		<input type="checkbox"/> Phase II SOC	
Shipping/Delivery Date		<input type="checkbox"/> Semivolatiles	
3/23/18		<input type="checkbox"/> Herbicides	
		<input type="checkbox"/> Carbamates	
		<input type="checkbox"/> Pesticides	
		<input type="checkbox"/> EDB	
		<input type="checkbox"/> Phase V SOC	
		<input type="checkbox"/> Diquat	
		<input type="checkbox"/> Endothall	
		<input type="checkbox"/> Glyphosate	
		<input type="checkbox"/> Dioxin	
Received By		Receiving Check List	
		<input checked="" type="checkbox"/> Received Intact <input type="checkbox"/> No Headspace	
Date Received		<input type="checkbox"/> Labels & Chains Agree <input type="checkbox"/> Temp: 12.2/12.3/14.1	
3-26-18 0952		<input type="checkbox"/> Ice/Ice-Packs Present: _____	
		<input type="checkbox"/> Custody Seals Present: _____	
		<input type="checkbox"/> Preservatives: _____	
		Other (specify): SWB5 M-535 537	
		PFC's Method 537	

Payment due with samples, unless credit has been established

Samples submitted to Anatek Labs may be subcontracted to other accredited labs if necessary. This message serves as notice of this possibility.
Subcontracted analyses will be clearly noted on the analytical report.



Chain of Custody - Drinking Water Analysis

WATER SYSTEM

Town of Coupeville
SEND REPORT TO Joseph Grogan
ADDRESS PO Box 725
CITY STATE ZIP Coupeville WA 98239

Water System

15550
Phone Number (360)914-0314
Fax Number
County

Public Water System Jurisdiction

A copy of the report to be sent to:

Sample Type	Sample Purpose
<input checked="" type="checkbox"/> Raw Water	<input type="checkbox"/> Compliance
<input checked="" type="checkbox"/> Distribution	<input checked="" type="checkbox"/> Investigative
<input type="checkbox"/> Plant Tap	<input type="checkbox"/> Other Purpose

Sample Collection Location

Distribution Tap

Well Tag #

DIST.

Date & Time Collected

3/23/18 0940

Sampler Name

Grogan

Sampler Signature

[Signature]

Check Desired Analyses

IOCs
<input type="checkbox"/> Sodium <input type="checkbox"/> Fluoride <input type="checkbox"/> Nitrate <input type="checkbox"/> Nitrite
<input type="checkbox"/> Phase II IOC Metals
<input type="checkbox"/> Phase V IOC Metals
<input type="checkbox"/> Primary IOC Package with Cn Waiver
<input type="checkbox"/> Secondary/Optional IOC Package
<input type="checkbox"/> Complete IOC Package
<input type="checkbox"/> Cyanide
<input type="checkbox"/> Asbestos

VOCs & DBPs
<input type="checkbox"/> VOC
<input type="checkbox"/> TTHM
<input type="checkbox"/> HAA5
<input type="checkbox"/> TOC
RADS
<input type="checkbox"/> Gross Alpha
<input type="checkbox"/> Gross Beta
<input type="checkbox"/> RAD 226
<input type="checkbox"/> RAD 228
<input type="checkbox"/> Uranium

SOCs
<input type="checkbox"/> Phase II SOC
<input type="checkbox"/> Semivolatiles
<input type="checkbox"/> Herbicides
<input type="checkbox"/> Carbamates
<input type="checkbox"/> Pesticides
<input type="checkbox"/> EDB
<input type="checkbox"/> Phase V SOC
<input type="checkbox"/> Diquat
<input type="checkbox"/> Endothall
<input type="checkbox"/> Glyphosate
<input type="checkbox"/> Dioxin

Other (specify):	US/C1
PFC's	SWBS
Method 537	M-537

Receiving Check List

<input checked="" type="checkbox"/> Received Intact	<input type="checkbox"/> No Headspace
<input type="checkbox"/> Labels & Chains Agree	<input type="checkbox"/> Temp: 12.2/12.3 101
<input checked="" type="checkbox"/> Ice/Ice-Packs Present:	
<input type="checkbox"/> Custody Seals Present:	
<input type="checkbox"/> Preservatives:	

Payment due with samples, unless credit has been established

Customer Signature

Shipping/Delivery Date

[Signature] 3/23/18

Received By

Date Received

[Signature] 3-26-18 1452

Samples submitted to Anatek Labs may be subcontracted to other accredited labs if necessary. This message serves as notice of this possibility. Subcontracted analyses will be clearly noted on the analytical report.



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726
Ser N46/1066
March 29, 2018

Town of Coupeville and Fort Casey Treatment Plant
Parcel No R13114-250-4610
PO Box 725
Coupeville, WA 98239

Dear Property Owner:

SUBJECT: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULT FIELD
DRINKING WATER TESTING RESULTS

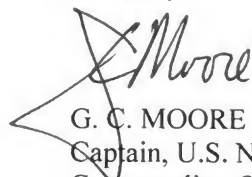
I am writing you regarding the U.S. Navy's drinking water investigation around Naval Air Station (NAS) Whidbey Island's Ault Field and Outlying Landing Field (OLF) Coupeville to inform you that we received the validated sampling results for your community well. The validated sampling results indicate that the drinking water remains below the Environmental Protection Agency's (EPA) Lifetime Health Advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required for the community well at this time.

The Navy is working in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to determine what additional actions are appropriate and to develop a long-term solution associated with PFOA and PFOS in other residents' drinking water resulting from NAS Whidbey Island activities. As the scientific community learns more, the EPA health advisory levels may change or additional standards may be developed by other federal, state, or local agencies. These changes may necessitate additional actions to be taken by the Navy. If your property is affected by any future changes, we will contact you to coordinate any additional actions.

Please know that the health and safety of this community is a top priority for me and I am committed to keeping you informed on developments that may impact you and your neighbors. We will continue to update our public website, <http://go.usa.gov/xkMBc>, as information, research, and regulation from federal, state or local agencies evolve in order to keep residents informed about the investigation at NAS Whidbey Island. You may also reach out to Navy Public Affairs Officer, Leslie Yuenger, at (360) 396-6387 or by email at PAO_feedback@navy.mil with any questions.

Thank you for your time and cooperation.

Sincerely,


G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Summary of Validated Data Results
2. Validated Data Reports

Town of Coupeville and Fort Casey Treatment Plant (Keystone Hill Well 108)
 434 Wanamaker Road, Coupeville, WA 98239
 Sample ID: WI-CV-1RW23-1017
 Date Collected: October 19, 2017
 Time Collected: 14:25
 Validated Results Provided: March 29, 2018

RECEIVED
 APR 09 2018
 TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

The Navy's Environmental Restoration Program analyzed for 14 per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established an LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA. The Navy also analyzed for additional parameters for wells with PFAS detections, including select dissolved metals and general water quality parameters. These results are shown below.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	64.7	70
PFOS and PFOA (cumulative) ¹	64.7	70

¹ Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	14.8	Not applicable
Perfluorohexanoic acid (PFHxA)	33.7	Not applicable
Perfluoroheptanoic acid (PFHpA)	10.6	Not applicable
Perfluorohexane sulfonate (PFHxS)	65.2	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

These parameters were not validated because the purpose of collection was for drinking water characteristics only.

B – Analyte not detected above the level reported in blanks

CM-1 – Reciprocal centimeters

H – The analyte was analyzed outside of holding time

J – Analyte present. Value may or may not be accurate or precise.

mg/L – Milligrams per liter

U – The material was analyzed for, but not detected

Town of Coupeville and Fort Casey Treatment Plant (Well 487)
 434 Wanamaker Road, Coupeville, WA 98239
 Sample ID: WI-CV-1RW24-1017
 Date Collected: October 19, 2017
 Time Collected: 15:18
 Validated Results Provided: March 29, 2018

RECEIVED
 APR 09 2018
 TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

The Navy's Environmental Restoration Program analyzed for 14 per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established an LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	ND	Not applicable
Perfluorohexanoic acid (PFHxA)	5.06 U-MBL	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Town of Coupeville and Fort Casey Treatment Plant (Well 106)
 434 Wanamaker Road, Coupeville, WA 98239
 Sample ID: WI-CV-1RW25-1017
 Date Collected: October 19, 2017
 Time Collected: 12:38
 Validated Results Provided: March 29, 2018

RECEIVED

APR 09 2018

TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

The Navy's Environmental Restoration Program analyzed for 14 per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established an LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisor (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	1.72 J	Not applicable
Perfluorohexanoic acid (PFHxA)	4.96 U-MBL	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Town of Coupeville and Fort Casey Treatment Plant (Well 190)
 434 Wanamaker Road, Coupeville, WA 98239
 Sample ID: WI-CV-1RW26-1017
 Date Collected: October 19, 2017
 Time Collected: 13:10
 Validated Results Provided: March 29, 2018

RECEIVED
 APR 09 2018
 TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

The Navy's Environmental Restoration Program analyzed for 14 per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established an LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	ND	Not applicable
Perfluorohexanoic acid (PFHxA)	4.84 U-MBL	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Town of Coupeville and Fort Casey Treatment Plant (Post Treatment, Distribution Point)
 434 Wanamaker Road, Coupeville, WA 98239
 Sample ID: WI-CV-1RW27-1017
 Date Collected: October 19, 2017
 Time Collected: 12:10
 Validated Results Provided: March 29, 2018

RECEIVED
 APR 09 2018
 TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

The Navy's Environmental Restoration Program analyzed for 14 per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established an LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA. The Navy also analyzed for additional parameters for wells with PFAS detections, including select dissolved metals and general water quality parameters. These results are shown below.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	36.8	70
PFOS and PFOA (cumulative) ¹	36.8	70

¹ Only detected values of PFOS and PFOA are summed.

ND – Analyte not detected in the sample

ppt – parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	9.46 J	Not applicable
Perfluorohexanoic acid (PFHxA)	19.9	Not applicable
Perfluoroheptanoic acid (PFHpA)	5.31 J	Not applicable
Perfluorohexane sulfonate (PFHxS)	38.8	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable

Chemical Name	October 2017
	Result (units mg/L)
Total suspended solids (TSS)	2.0 U
Wet Chemistry	Result (units CM-1)
UV254	0.0243
Dissolved Wet Chemistry	Result (units mg/L)
Dissolved organic carbon	1.7

These parameters were not validated because the purpose of collection was for drinking water characteristics only.

B – Analyte not detected above the level reported in blanks

CM-1 – Reciprocal centimeters

H – The analyte was analyzed outside of holding time

J – Analyte present, but result is estimated

mg/L – Milligrams per liter

U – The material was analyzed for, but not detected

Town of Coupeville and Fort Casey Treatment Plant (Well 287)
 434 Wanamaker Road, Coupeville, 98239
 Sample ID: WI-CV-1RW60-1017
 Date Collected: October 19, 2017
 Time Collected: 15:30
 Validated Results Provided: March 29, 2018

RECEIVED
 APR 09 2018
 TOWN OF COUPEVILLE

Below are the **validated** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). Based upon the completion of data validation, qualifier flags have been updated. A description of updates is listed in the table below. Changes are made based upon the review of the sample and the associated quality control samples.

The Navy's Environmental Restoration Program analyzed for 14 per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established an LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	5.64 J	70
PFOS and PFOA (cumulative) ¹	5.64 J	70

¹ Only detected values of PFOS and PFOA are summed.

J – Analyte present, but result is estimated

ND – Analyte not detected in the sample

ppt – parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	1.11 J	Not applicable
Perfluorohexanoic acid (PFHxA)	5.07 U-MBL	Not applicable
Perfluoroheptanoic acid (PFHpA)	0.572 J	Not applicable
Perfluorohexane sulfonate (PFHxS)	5.00 J	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Sample ID: W1-CV-1RW23-1017

EPA Method 537

Client Data				Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-12	Column:	BEH C18			
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 14:25	Date Received:	21-Oct-17 09:30					
Location:	DW									
Analyte	(Conc. (ug/L))	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Sample Size	Analyzed	Dilution
PFBS	0.0148	0.000427	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFHxA	0.0337	0.000639	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFHpA	0.0106	0.000514	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFHxS	0.0652	0.000400	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFOA	0.0647	0.00104	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFNA	ND	0.00139	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFOS	ND	0.00100	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFDA	ND	0.00123	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
MeFOSAA	ND	0.00293	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
EtFOSAA	ND	0.00186	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFUnA	ND	0.000246	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFDoA	ND	0.000917	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFTfDA	ND	0.000909	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
PFTeDA	ND	0.000749	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Sample Size	Analyzed	Dilution	
13C2-PFHxA	SURR	107	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1	
13C2-PFIDA	SURR	102	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1	
d5-EtFOSAA	SURR	103	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15	1	

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-LCL- Lower control limit - upper control limit
Results reported to the DL

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers
Only the linear isomer is reported for all other analytes

Sample ID: WI-CV-1RW24-1017

EPA Method 537

Client Data				Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-14	Column:	BEH C18			
Project:	CLIFAN CTO-4041 NASWI	Date Collected:	19-Oct-17 15:18	Date Received:	21-Oct-17 09:30					
Location:	DW									
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Sample Size	Analyzed	Dilution
PFBS	ND	0.000449	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFHxA	0.00506	0.000671	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFHpA	ND	0.000540	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFHxS	ND	0.000420	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFOA	ND	0.00109	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFNA	ND	0.00146	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFOS	ND	0.00105	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFDA	ND	0.00130	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
MeFOSAA	ND	0.00308	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
EtFOSAA	ND	0.00195	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFUnA	ND	0.000258	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFDxA	ND	0.000964	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFTrDA	ND	0.000955	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
PFTeDA	ND	0.000787	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
Labelled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Sample Size	Analyzed	Dilution	
13C2-PFHxA	SURR	100	70 - 130		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1	
13C2-PFDA	SURR	91.2	70 - 130		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1	
d5-EtFOSAA	SURR	107	70 - 130		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1	

DL - Detection Limit
LOQ - Limit of quantitation

LCL, UCL - Lower control limit - upper control limit
Results reported to the DL

When reported, PFHxS, PFNA and PFOS include both linear and branched isomers
Only the linear isomer is reported for all other analytes

M&L

MW, 2631, 7

Sample ID: W1-CV-1RW25-1017

EPA Method 537

Client Data				Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-08	Column:	BEH C18			
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 12:38	Date Received:	21-Oct-17 09:30					
Location:	DW									
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBs	0.00172	0.000439	0.00496	0.00091	J	B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHxA	0.000657	0.000657	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHpA	ND	0.000528	0.00496	0.00091	LH	B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHxS	ND	0.000411	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFOA	ND	0.00107	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFNA	ND	0.00143	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFOS	ND	0.00103	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFDA	ND	0.00127	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
MeFOSAA	ND	0.00301	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
EtFOSAA	ND	0.00191	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFLuA	ND	0.000253	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFDAa	ND	0.000944	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFTDA	ND	0.000935	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFTeDA	ND	0.000770	0.00496	0.00091		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	105	70 - 130		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1	
13C2-PFDA	SURR	106	70 - 130		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1	
d5-EtFOSAA	SURR	98.8	70 - 130		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1	

[DL] - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

LCL - Lower control limit - upper control limit
Results reported to the DL

When reported, PFHxS, PFuA and PFcS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes

MBL

MW 216.31.7

Sample ID: W1-CV-1RW26-1017

EPA Method 537

Client Data				Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-10	Column:	BEH C18			
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 13:10	Date Received:	21-Oct-17 09:30					
Location:	DW									
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	ND	0.000428	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFHxA	0.00484	0.000641	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFHpA	ND	0.000515	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFHxS	ND	0.000401	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFOA	ND	0.00104	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFNA	ND	0.00139	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFOS	ND	0.00101	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFDA	ND	0.00124	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
MeFOSAA	ND	0.00294	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
EtFOSAA	ND	0.00187	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFUnA	ND	0.000247	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFIDoA	ND	0.000921	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFTDA	ND	0.000912	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
PFTeDA	ND	0.000751	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	102	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
13C2-PFIDA	SURR	99.1	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
d5-EtFOSAA	SURR	90.7	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-UCL - Lower control limit - upper control limit
Results reported to the DL

When reported, PFHxS, PFUnA, PFOS include both linear and branched isomers
Only the linear isomer is reported for all other analytes

W1212311+

M&L

Sample ID: W1-CV-1RW27-1017

EPA Method 537

Client Data				Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-06	Column:	BEH C18			
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 12:10	Date Received:	21-Oct-17 09:30					
Location:	DW									
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	0.00946	0.000438	0.00495	0.00989	J	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHxA	0.0199	0.000656	0.00495	0.00989	B	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHpA	0.00531	0.000527	0.00495	0.00989	J	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHxS	0.0388	0.000411	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFOA	0.0368	0.00107	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFNA	ND	0.00142	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFOS	ND	0.00103	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFDA	ND	0.00127	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
MeFOSAA	ND	0.00301	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
EtFOSAA	ND	0.00191	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFUnA	ND	0.000252	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFDoA	ND	0.000942	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFTtDA	ND	0.000933	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFTeDA	ND	0.000769	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	103	70 - 130		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1	
13C2-PFDA	SURR	97.7	70 - 130		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1	
d5-EtFOSAA	SURR	111	70 - 130		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1	

LDL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-UCL - Lower control limit - upper control limit
Results reported to the DL

When reported, PFHxS, PFOA and PFTtS include both linear and branched isomers
Only the linear isomer is reported for all other analytes

Sample ID: W1-CV-1RW60-1017

EPA Method 537

Client Data				Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-16	Column:	BEH C18			
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 15:30	Date Received:	21-Oct-17 09:30					
Location:	DW									
Analyte	Conc. (ug/l)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	0.00111	0.000449	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFHxA	0.00327	0.000673	0.00507	0.0101	J, B	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFHpA	0.000572	0.000541	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFHxS	0.00500	0.000421	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFOA	0.00564	0.00110	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFNA	ND	0.00146	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFOS	ND	0.00106	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFDA	ND	0.00130	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
MeFOSAA	ND	0.00308	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
EtFOSAA	ND	0.00196	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFUnA	ND	0.000259	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFDoA	ND	0.000966	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFTDA	ND	0.000957	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
PFtCDA	ND	0.000788	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.6	70 - 130			B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
13C2-PFDA	SURR	94.4	70 - 130			B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
d5-EtFOSAA	SURR	111	70 - 130			B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-LCL - Lower control limit - upper control limit
Results reported to the DL

When reported PFHxS, PFOA and PFOS include both linear and branched isomers.
(only the linear isomer is reported for all other analytes)

MCL

MW 21231.4

1 ng/L = 1 ppt
nanogram(s) per
liter or
part(s) per
trillion

The detection limit (**DL**) is the lowest level at which the laboratory can reliably "see" that this compound is present.

The limit of detection (**LOD**) is the lowest level at which the laboratory can reliably "see" this compound is **not** present.

The limit of quantitation (**LOQ**) is the lowest level at which the laboratory can reliably measure this compound with a known degree of confidence and accuracy.

This section contains
quality control
information used by
the data validator.

Sample ID: WF-RW02-0317

EPA Method 537

Sample ID: WF-RW02-0317		EPA Method 537										
Client Data		Sample Data			Laboratory Data							
Name:	<div></div>	Matrix:	Drinking Water			Lab Sample:	<div></div>			Date Received:	29-Mar-2017	9:21
Project:		Sample Size:	0.289 L.			QC Batch:	B7C0165			Date Extracted:	30-Mar-2017	7:50
Date Collected:						Date Analyzed:	04-Apr-17 15:37			Column:	BFH C18	
Location:		WF-RW02										
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers			
PFBS	ND	3.02	8.65	17.3		SUR 13C2-PFHxA	103	70 - 130				
PFOA	6.53	3.93	8.65	17.3	J	SUR 13C2-PFDA	117	70 - 130				
PFOS	ND	2.64	8.65	17.3								

DL - Detection limit
RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
Results reported to DL.
When reported, PFBS, PFHxS, PFOA and PFOs include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

The result for PFBS:

PFBS was not detected in the sample.

This is reported as "ND" (Non-Detect).

The result for PFOA:

PFOA was detected in the sample at 6.53 ng/L (6.53 ppt).

The "J" qualifier means that the PFOA was detected but the amount detected is estimated.

The result for PFOs:

PFOs was not detected in the sample.

This is reported as "ND" (Non-Detect).

This column identifies the data qualifiers that apply to a given result. Possible laboratory qualifiers are:

"J" (Estimated Value) - indicates the value reported for the analyte is below the LOQ and was detected.

The value reported is considered estimated.

"B" (Blank) - this compound was also detected in the method blank.

"D" (Diluted Sample) - sample result was taken from a diluted sample.

There is not a health advisory level for PFBS; therefore, no action is currently being taken based on this result. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration Program.



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726
Ser N46/3846
December 22, 2017

Town of Coupeville and Fort Casey Treatment Plant
Parcel No R13114-250-4610
PO Box 725
Coupeville, WA 98239

RECEIVED

JAN 02 2018

TOWN OF COUPEVILLE

Dear Property Owner:

SUBJECT: NAVAL OUTLYING LANDING FIELD COUPEVILLE AND AULT FIELD
DRINKING WATER TESTING RESULTS

I am writing you regarding the U.S. Navy's drinking water investigation around Naval Air Station (NAS) Whidbey Island's Ault Field and Outlying Landing Field (OLF) Coupeville to inform you that we received the preliminary sampling results for your community well. The preliminary sampling results indicate that the drinking water remains below the Environmental Protection Agency's (EPA) Lifetime Health Advisory (LHA) for perfluorooctane sulfonate (PFOS) and/or perfluorooctanoic acid (PFOA). These results indicate that no further action is required for the community well at this time. We are providing residents serviced by this community well a copy of this letter with the preliminary drinking water results.

As an extra precaution, these preliminary results are going through a subsequent validation process to confirm their accuracy. Because validation of results can take several weeks to complete, we wanted to share the preliminary testing results immediately to keep you informed of the process every step of the way. Please find the detailed preliminary test results of your residence's drinking water attached here in Enclosures 1 and 2. Please find a handout enclosed that will assist you in understanding your laboratory analytical results (see Enclosure 3). We will follow up with the validated results as soon as that process is complete.

The Navy is working in partnership with the EPA Region 10, Agency for Toxic Substances and Disease Registry, Washington State Department of Health, and Island County Public Health to determine what additional actions are appropriate and to develop a long-term solution associated with PFOA and PFOS in other residents' drinking water resulting from NAS Whidbey Island activities. As the scientific community learns more, the EPA health advisory levels may change or additional standards may be developed by other federal, state, or local agencies. These changes may necessitate additional actions to be taken by the Navy. If your property is affected by any future changes, we will contact you to coordinate any additional actions.

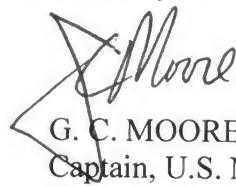
Please know that the health and safety of this community is a top priority for me and I am committed to keeping you informed on developments that may impact you and your neighbors.

5726
Ser N46/3846
December 22, 2017

We will continue to update our public website, <http://go.usa.gov/xkMBc>, as information, research, and regulation from federal, state or local agencies evolve in order to keep residents informed about the investigation at NAS Whidbey Island. You may also reach out to the Navy Public Affairs Officer, Ms. Leslie Yuenger, at (360) 396-6387 or by email at PAO_feedback@navy.mil with any questions.

Thank you for your time and cooperation.

Sincerely,

A handwritten signature in black ink, appearing to read "G. C. Moore", is written over a large, stylized "X" mark.

G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Enclosures: 1. Summary of Preliminary Data Results
2. Preliminary Data Report
3. Understanding Data Packages

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (KEYSTONE HILL WELL 108)**PO BOX 725, COUPEVILLE, WA 98239****Sample ID: WI-CV-1RW23-1017****Date Collected: 10/19/2017****Time Collected: 14:25****Preliminary Results Provided: December 22, 2017****RECEIVED**

JAN 02 2018

TOWN OF COUPEVILLE

Below are the preliminary test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA. The Navy also analyzed for additional parameters for wells with PFAS detections, including select dissolved metals and general water quality parameters. These results are shown below.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	64.7	70
PFOS and PFOA (cumulative) ¹	64.7	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	14.8	Not applicable
Perfluorohexanoic acid (PFHxA)	33.7 B	Not applicable
Perfluoroheptanoic acid (PFHpA)	10.6	Not applicable
Perfluorohexane sulfonate (PFHxS)	65.2	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable
Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J - Analyte present, but result is estimated

B - Analyte not detected above the level reported in blanks

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other chemical parameters

Chemical Name	October 2017
	Result (units mg/L)
Total Metals	
Iron	0.47 U
Dissolved Metals	
Aluminum	0.44 U
Calcium	64
Iron	0.47 U
Magnesium	31
Manganese	0.043
Potassium	5.1
Silicon	17
Wet Chemistry	
Alkalinity	240
Ammonia	0.15 J
Bicarbonate Alkalinity as CaCO ₃	240
Carbonate Alkalinity as CaCO ₃	5.0 U
Chloride	28
Fluoride	0.041 J
Hydroxide Alkalinity as CaCO ₃	5.0 U
Nitrate/Nitrite	2.1
Phosphate	0.11 H
Sulfate	25
Total dissolved solids (TDS)	390 B
Total suspended solids (TSS)	2.0 U
Wet Chemistry	Result (units CM-1)
UV254	0.0173
Dissolved Wet Chemistry	Result (units mg/L)
Dissolved organic carbon	1.2

CM-1 - Reciprocal centimeters

H - The analyte was analyzed outside of holding time.

J - Analyte present. Value may or may not be accurate or precise

MG/L - Milligrams per liter

U - The material was analyzed for, but not detected

Sample ID: W1-CV-1RW23-1017									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701526-12	Column:	BEH C18	
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 14:25		Date Received:	21-Oct-17 09:30			
Location:	DW								
EPA Method 537									
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Dilution
PFBs	0.0148	0.000427	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFHxA	0.0337	0.000639	0.00482	0.00964	B	B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFHpA	0.0106	0.000514	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFHxS	0.0652	0.000400	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFOA	0.0647	0.00104	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFNA	ND	0.00139	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFOS	ND	0.00100	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFDA	ND	0.00123	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
MeFOSAA	ND	0.00293	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
EiFOSAA	ND	0.00186	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFUnA	ND	0.000246	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFDoA	ND	0.000917	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFTtDA	ND	0.000909	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
PFTeDA	ND	0.000749	0.00482	0.00964		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15
Labeled Standards									
Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Dilution		
13C2-PFHxA	107	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15		
13C2-PFDA	102	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15		
d5-EiFOSAA	103	70 - 130		B7J0173	26-Oct-17	0.259 L	01-Nov-17 03:15		
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL - Lower control limit - upper control limit Results reported to the DL.									
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes.									

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (POST TREATMENT, DISTRIBUTION POINT)
PO BOX 725, COUPEVILLE, WA 98239

Sample ID: WI-CV-1RW27-1017

Date Collected: 10/19/2017

Time Collected: 12:10

Preliminary Results Provided: December 22, 2017

RECEIVED

JAN 02 2018

TOWN OF COUPEVILLE

Below are the preliminary test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA. The Navy also analyzed for additional parameters for wells with PFAS detections, including select dissolved metals and general water quality parameters. These results are shown below.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	36.8	70
PFOS and PFOA (cumulative) ¹	36.8	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	9.46 J	Not applicable
Perfluorohexanoic acid (PFHxA)	19.9 B	Not applicable
Perfluoroheptanoic acid (PFHpA)	5.31 J	Not applicable
Perfluorohexane sulfonate (PFHxS)	38.8	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable

Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable
Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J - Analyte present, but result is estimated

B - Analyte not detected above the level reported in blanks

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other chemical parameters

Chemical Name	October 2017
	Result (units mg/L)
Total Metals	
Iron	0.47 U
Dissolved Metals	
Aluminum	0.44 U
Calcium	61
Iron	0.47 U
Magnesium	34
Manganese	0.0044 J
Potassium	6.1
Silicon	17
Wet Chemistry	
Alkalinity	250
Ammonia	0.12 J
Bicarbonate Alkalinity as CaCO ₃	250
Carbonate Alkalinity as CaCO ₃	5.0 U
Chloride	37
Fluoride	0.070 J
Hydroxide Alkalinity as CaCO ₃	5.0 U
Nitrate/Nitrite	2.2
Phosphate	0.19 H
Sulfate	22
Total dissolved solids (TDS)	420 B
Total suspended solids (TSS)	2.0 U
Wet Chemistry	Result (units CM-1)
UV254	0.0243
Dissolved Wet Chemistry	Result (units mg/L)
Dissolved organic carbon	1.7

CM-1 - Reciprocal centimeters

H - The analyte was analyzed outside of holding time.

J - Analyte present. Value may or may not be accurate or precise

MG/L - Milligrams per liter

U - The material was analyzed for, but not detected

Sample ID: W1-CV-1RW27-1017

EPA Method 537

Client Data				Laboratory Data						
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-06	Column:	BEH C18			
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 12:10	Date Received:	21-Oct-17 09:30					
Location:	DW									
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Sample Size	Analyzed	Dilution
PFBS	0.00946	0.000438	0.00495	0.00989	J	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHxA	0.0199	0.000656	0.00495	0.00989	B	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHpA	0.00531	0.000527	0.00495	0.00989	J	B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFHxS	0.0388	0.000411	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFOA	0.0368	0.00107	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFNA	ND	0.00142	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFOS	ND	0.00103	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFDA	ND	0.00127	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
MeFOSAA	ND	0.00301	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
EtFOSAA	ND	0.00301	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFUnA	ND	0.00191	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFDoA	ND	0.000252	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFTrDA	ND	0.000942	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFTeDA	ND	0.000933	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
PFTeDA	ND	0.000769	0.00495	0.00989		B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Sample Size	Analyzed	Dilution
13C2-PFHxA	SURR	103	70 - 130			B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
13C2-PFDA	SURR	97.7	70 - 130			B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1
d5-EtFOSAA	SURR	111	70 - 130			B7J0173	26-Oct-17	0.253 L	01-Nov-17 01:22	1

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of Quantitation

Lower control limit - unspiked control limit

Upper control limit - spiked control limit

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation
LCL-UCL - Lower control limit - upper control limit
Results reported to the DL.
When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (WELL 287)
 PO BOX 725, COUPEVILLE, WA 98239
 Sample ID: WI-CV-1RW60-0117
 Date Collected: 10/19/2017
 Time Collected: 15:30
 Preliminary Results Provided: December 22, 2017

RECEIVED
 JAN 02 2018
 TOWN OF COUPEVILLE

Below are the **preliminary** test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	5.64 J	70
PFOS and PFOA (cumulative) ¹	5.64 J	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	1.11 J	Not applicable
Perfluorohexanoic acid (PFHxA)	3.20 JB	Not applicable
Perfluoroheptanoic acid (PFHpA)	0.572 J	Not applicable
Perfluorohexane sulfonate (PFHxS)	5.00 J	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J - Analyte present, but result is estimated

B - Analyte not detected above the level reported in blanks

ND - Analyte not detected in the sample

ppt - parts per trillion

Sample ID: W1-CV-1RW60-1017									
Client Data					Laboratory Data				
Name:	C12M Hill	Matrix:	Drinking Water		Lab Sample:	1701526-16	Column:	BEH C18	
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 15:30		Date Received:	21-Oct-17 09:30			
Location:	DW								
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed
PFBS	0.00111	0.000449	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFHxA	0.00320	0.000673	0.00507	0.0101	J, B	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFHpA	0.000572	0.000541	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFHxS	0.00500	0.000421	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFOA	0.00564	0.00110	0.00507	0.0101	J	B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFNA	ND	0.00146	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFOS	ND	0.00106	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFDA	ND	0.00130	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
MeFOSAA	ND	0.00308	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
EtFOSAA	ND	0.00196	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFUnA	ND	0.000259	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFDoA	ND	0.000966	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFTTrDA	ND	0.000957	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
PFTrDA	ND	0.000788	0.00507	0.0101		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	98.6	70 - 130		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
13C2-PFDA	SURR	94.4	70 - 130		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1
d5-EtFOSAA	SURR	111	70 - 130		B7J0173	26-Oct-17	0.246 L	01-Nov-17 04:04	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

LCL-UCL- Lower control limit - upper control limit
Results reported to the DL.

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (WELL 487)**PO BOX 725, COUPEVILLE, WA 98239****Sample ID: WI-CV-1RW24-1017****Date Collected: 10/19/2017****Time Collected: 15:18****Preliminary Results Provided: December 22, 2017****RECEIVED****JAN 02 2018****TOWN OF COUPEVILLE**

Below are the preliminary test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	ND	Not applicable
Perfluorohexanoic acid (PFHxA)	1.35 JB	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J - Analyte present, but result is estimated

B - Analyte not detected above the level reported in blanks

ND - Analyte not detected in the sample

ppt - parts per trillion

Sample ID: W1-CV-1RW24-1017									
Client Data					Laboratory Data				
Name:	CH2M Hill	Matrix:	Drinking Water		Lab Sample:	1701526-14	Column:	BEH C18	
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 15:18		Date Received:	21-Oct-17 09:30			
Location:	DW								
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed
PFBS	ND	0.000449	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFHxA	0.00135	0.000671	0.00506	0.0101	J, B	B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFHpA	ND	0.000540	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFHxS	ND	0.000420	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFOA	ND	0.00109	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFNA	ND	0.00146	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFOS	ND	0.00105	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFDA	ND	0.00130	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
MeFOSAA	ND	0.00308	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
EtFOSAA	ND	0.00195	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFUnA	ND	0.000258	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFDoA	ND	0.000964	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFTTrDA	ND	0.000955	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
PFTeDA	ND	0.000787	0.00506	0.0101		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
I3C2-PFHxA	SURR	100	70 - 130		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
I3C2-PFDA	SURR	91.2	70 - 130		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
d5-EtFOSAA	SURR	107	70 - 130		B7J0173	26-Oct-17	0.247 L	01-Nov-17 03:40	1
DL - Detection Limit LOD - Limit of Detection LOQ - Limit of quantitation LCL-UCL- Lower control limit - upper control limit Results reported to the DL When reported, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes.									

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (WELL 106)
 PO BOX 725, COUPEVILLE, WA 98239
 Sample ID: WI-CV-1RW25-1017
 Date Collected: 10/19/2017
 Time Collected: 12:38
 Preliminary Results Provided: December 22, 2017

RECEIVED
 JAN 02 2018
 TOWN OF COUPEVILLE

Below are the preliminary test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	1.72 J	Not applicable
Perfluorohexanoic acid (PFHxA)	2.24 JB	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J - Analyte present, but result is estimated

B - Analyte not detected above the level reported in blanks

ND - Analyte not detected in the sample

ppt - parts per trillion

Sample ID: W1-CV-1RW25-1017					EPA Method 537					
Client Data			Laboratory Data							
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-08	Column:	BEH C18			
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 12:38	Date Received:	21-Oct-17 09:30					
Location:	DW									
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	0.00172	0.000439	0.00496	0.00991	J	B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHxA	0.00224	0.000657	0.00496	0.00991	J, B	B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHpA	ND	0.000528	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFHxS	ND	0.000411	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFOA	ND	0.00107	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFNA	ND	0.00143	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFOS	ND	0.00103	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFDA	ND	0.00127	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
MeFOSAA	ND	0.00301	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
EtFOSAA	ND	0.00191	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFUnA	ND	0.000253	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFDoA	ND	0.000944	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFTtDA	ND	0.000935	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
PFTeDA	ND	0.000770	0.00496	0.00991		B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers		Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-PFHxA	SURR	105	70 - 130			B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
13C2-PFDA	SURR	106	70 - 130			B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
d5-EtFOSAA	SURR	98.8	70 - 130			B7J0173	26-Oct-17	0.252 L	01-Nov-17 01:47	1
DL - Detection Limit		LCL-UCL- Lower control limit - upper control limit		When reported, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes.						
LOQ - Limit of Quantitation		Results reported to the DL.								

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers.
Only the linear isomer is reported for all other analytes.

LCL-UCL - Lower control limit - upper control limit
Results reported to the DL.

LOD - Limit of Detection
LOQ - Limit of quantitation

DL - Detection Limit

TOWN OF COUPEVILLE & FT. CASEY TREATMENT PLANT (WELL 190)**PO BOX 725, COUPEVILLE, WA 98239****Sample ID: WI-CV-1RW26-1017****Date Collected: 10/19/2017****Time Collected: 13:10****Preliminary Results Provided: December 22, 2017****RECEIVED****JAN 02 2018****TOWN OF COUPEVILLE**

Below are the preliminary test results for your drinking water sampled on October 19, 2017. These results indicate that your drinking water is below the U.S. Environmental Protection Agency (EPA)'s lifetime health advisory (LHA) for Perfluorooctane Sulfonate (PFOS) and/or Perfluorooctanoic acid (PFOA). Once the Navy receives the final, validated results we will notify you and provide you with a copy of the validated results.

The Navy's Environmental Restoration Program analyzed for fourteen per- and polyfluoroalkyl substances (PFAS) as part of this drinking water investigation; however, PFOA and PFOS are the only PFAS for which EPA has established a LHA. The Navy provides bottled water when the sample results exceed the EPA's LHA.

If the EPA or the State of Washington Department of Ecology sets health advisories for other PFAS compounds in the future, then the Navy will evaluate necessary actions to take based on the health advisories.

Results of Laboratory Analytical Tests for PFAS with EPA Health Advisory Levels

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorooctane Sulfonate (PFOS)	ND	70
Perfluorooctanoic acid (PFOA)	ND	70
PFOS and PFOA (cumulative) ¹	ND	70

¹ Only detected values of PFOS and PFOA are summed.

J - Analyte present, but result is estimated

ND - Analyte not detected in the sample

ppt - parts per trillion

Results for other PFAS where no EPA Health Advisory Levels have been established

Chemical Name	October 2017	Health Advisory (ppt)
	Result (ppt)	
Perfluorobutane sulfonate (PFBS)	ND	Not applicable
Perfluorohexanoic acid (PFHxA)	1.85 JB	Not applicable
Perfluoroheptanoic acid (PFHpA)	ND	Not applicable
Perfluorohexane sulfonate (PFHxS)	ND	Not applicable
Perfluorononanoic acid (PFNA)	ND	Not applicable
Perfluoro-n-decanoic acid (PFDA)	ND	Not applicable
N-Ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	ND	Not applicable
N-Methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	ND	Not applicable
Perfluoro-n-undecanoic acid (PFUnA)	ND	Not applicable

Perfluoro-n-dodecanoic acid (PFDoA)	ND	Not applicable
Perfluoro-n-tridecanoic acid (PFTrDA)	ND	Not applicable
Perfluoro-n-tetradecanoic acid (PFTeDA)	ND	Not applicable

J - Analyte present, but result is estimated

B - Analyte not detected above the level reported in blanks

ND - Analyte not detected in the sample

ppt - parts per trillion

Sample ID: WJ-CV-1RW26-1017										EPA Method 537	
Client Data				Laboratory Data							
Name:	CH2M Hill	Matrix:	Drinking Water	Lab Sample:	1701526-10	Column:	BEH C18				
Project:	CLEAN CTO-4041 NASWI	Date Collected:	19-Oct-17 13:10	Date Received:	21-Oct-17 09:30						
Location:	DW										
Analyte	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBS	ND	0.000428	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFHxA	0.00185	0.000641	0.00484	0.00967	J, B	B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFHpA	ND	0.000515	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFHxS	ND	0.000401	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFOA	ND	0.00104	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFNA	ND	0.00139	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFOS	ND	0.00101	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFDA	ND	0.00124	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
MeFOSAA	ND	0.00294	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
EtFOSAA	ND	0.00187	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFUnA	ND	0.000247	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFDoA	ND	0.000921	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFTTrDA	ND	0.000912	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
PFTeDA	ND	0.000751	0.00484	0.00967		B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers		Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-PFHxA	SURR	102	70 - 130			B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
13C2-PFDA	SURR	99.1	70 - 130			B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
d5-EtFOSAA	SURR	90.7	70 - 130			B7J0173	26-Oct-17	0.259 L	01-Nov-17 02:12	1	
DL - Detection Limit	LOD - Limit of Detection LOQ - Limit of quantitation	LCL-UCL - Lower control limit - upper control limit Results reported to the DL.		When reported, PFHxS, PFOA and PFOS include both linear and branched isomers. Only the linear isomer is reported for all other analytes.							

When reported, PFHxS, PFOA and PFOS include both linear and branched isomers
Only the linear isomer is reported for all other analytes.

LCL-UCL - Lower control limit - upper control limit
Results reported to the DL.

LOD - Limit of Detection
LOQ - Limit of quantitation

DL - Detection Limit

1 ng/L = 1 ppt
nanogram(s) part(s) per
per liter trillion

The detection limit (DL) is the lowest level at which the laboratory can reliably "see" that this compound is present.

The limit of detection (LOD) is the lowest level at which the laboratory can reliably "see" this compound is **not** present.

The limit of quantitation (LOQ) is the lowest level at which the laboratory can reliably measure this compound with a known degree of confidence and accuracy.

This section contains quality control information used by the data validator.

Sample ID: WF-RW02-0317		EPA Method 537							
Client Data Name: [REDACTED] Project: [REDACTED] Date Collected: [REDACTED] Location: WF-RW02		Sample Data Matrix: Drinking Water Sample Size: 0.289 L		Laboratory Data Lab Sample: [REDACTED] QC Batch: B7C0165 Date Analyzed: 04-Apr-17 15:37 Column: BEH C18 Date Received: 29-Mar-2017 9:21 Date Extracted: 30-Mar-2017 7:50					
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
	PFBS	ND	3.02	8.65	17.3		SUR 13C2-PFHxA	103	70 - 130
	PFOA	6.53	3.93	8.65	17.3	J	SUR 13C2-PFDA	117	70 - 130
	PFOS	ND	2.64	8.65	17.3				

DL - Detection limit
RL - Reporting limit

LCL-UCL - Lower control limit - upper control limit
Results reported to DL
When reported, PFBS, PFHxS, PFOA and PFOS include both linear and branched isomers
Only the linear isomer is reported for all other analytes

The result for PFBS:
PFBS was not detected in the sample.
This is reported as "ND" (Non-Detect).

The result for PFOA:
PFOA was detected in the sample at 6.53 ng/L (6.53 ppt).
The "J" qualifier means that the PFOA was detected but the *amount* detected is estimated.

The result for PFOS:
PFOS was not detected in the sample.
This is reported as "ND" (Non-Detect).

This column identifies the data qualifiers that apply to a given result. Possible laboratory qualifiers are:

"J" (Estimated Value) – indicates the value reported for the analyte is below the LOQ and was detected. The value reported is considered estimated.

"B" (Blank) – this compound was also detected in the method blank.

"D" (Diluted Sample) – sample result was taken from a diluted sample.

"M" (Manually Integrated) – the peak on the laboratory equipment was manually, rather than automatically, integrated.

There is not a health advisory level for PFBS; therefore, no action is currently being taken based on this result. This chemical has health effects information that can be used to evaluate potential impact under the Navy's Environmental Restoration Program.



- Legend
- Water Supply Well
 - Potential Source Area Well
 - Downgradient Well
 - Estimated Groundwater Flow Direction
 - Base Boundary


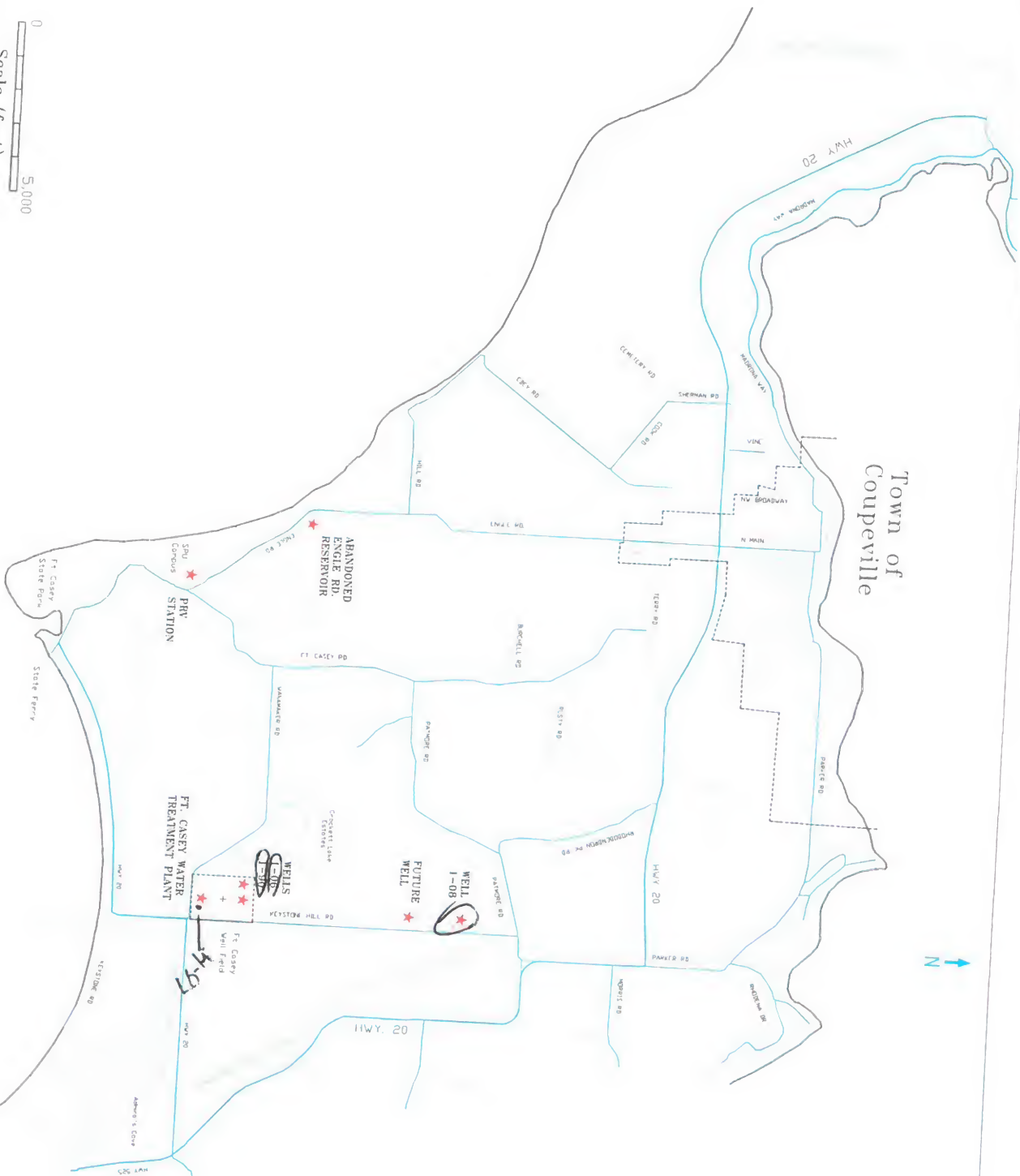

 N
 0 0.15 0.3
 Mile
 1 inch = 0.3 mile
 Imagery Source: Esri

Figure 3
 Proposed Well Locations
 OLF Coupeville
 Coupeville, Washington
 For Official Use Only

0
5,000
Scale (feet)

Town of Coupeville

N

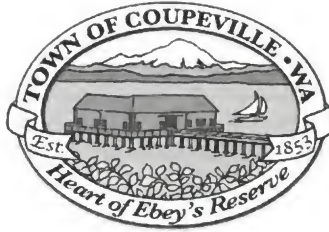


TOWN OF COUPEVILLE
P. O. Box 725
Coupeville, Washington 98239

WATER DISTRIBUTION SYSTEM WATER FACILITIES OUT-OF-TOWN SYSTEM

GEORGE BRATTON, CIVIL ENGINEER
1252 S. Farragut Drive
Coupeville, Washington 98239
Job 171 May 2008

Sht. 2 of 2



Hello Residents,

I feel the need to respond to Ms. Maryon Attwood's letter to the Editor in the December 28 edition of the Whidbey News Times. Her letter's primary emphasis is on the Navy's draft Environmental Impact Statement (EIS), which is currently out for public comment. This is an important topic, and is of interest to many in the greater Coupeville community. However, the statement I want to address, one that seems to be included only for its emotional impact, is: "Today, we know that the worst is true – water is contaminated with a bad-acting fire-retardant chemical. In Coupeville's coffee shops and restaurants now, contaminated water is served..."

While I appreciate Ms. Atwood's passion, this type of intentional distortion has no place in a reasonable discussion. Clearly, it was meant only to instigate fear and panic in the community and was apparently written without regard to its emotional or economic effect. While the protection and future of our water supplies is of critical importance, it must be addressed using the best, most current, information available and without resorting to fearmongering.

Here are the FACTS

- Military Bases all over the Nation as well as civilian Fire Departments have used a fire fighting foam called AFFF. This foam was developed to put out petroleum fires, such as you would have with an airplane crash.
- This foam contains many chemicals, but two in particular are Perfluorooctanoic acid (PFOA) and Perfluorooctane sulfonate (PFOS). These compounds do not easily break down in the environment or the human body. They have a cumulative effect.
- These compounds are not currently regulated by the Department of Health, meaning, public and private water systems are not required to test for them.
- Recently, the Environmental Protection Agency (EPA) set lifetime health advisory levels for these two compounds at 70 parts per trillion (ppt). This is intended to be a safe and protective level against adverse health effects if you consume water, at this level or below, for an entire lifetime.

- Military bases around the country have started testing for these compounds. Here on Whidbey Island, this means the Navy is providing free testing for all wells within a one mile radius of their airfields.
- So far, the Navy has received results on 100 test samples of private wells. Six private wells in the OLF Coupeville area and one near Ault Field have come back above the EPA's lifetime advisory level. These homeowners have been provided temporary drinking water until a permanent solution can be found. The water from these wells are not a part of the public drinking water supply.
- The Town of Coupeville uses four wells in the Keystone and Ft. Casey area to supply water to the public. The water from all four wells is blended together before entering the Town's distribution system.
- Through qualified, outside testing laboratories, the Town and the Navy have independently conducted tests on our wells, and at the point the water enters our public distribution system. Three of the wells tested at the non-detect level for both compounds. The Keystone well tested at 59, 61 and 62 ppt for PFOA. At distribution, after the water is blended, it tested at 25, 27 and 38 ppt for PFOA. All of these results are below the EPA's lifetime advisory level.
- The Navy continues to provide free testing of private wells within the one mile radius of the airstrips. If you have not had your well tested, and would like to, call 360-396-1030 to make an appointment.
- The Navy is drilling groundwater monitoring wells to help Island County understand the movement of ground water in the area. More testing of private wells is needed. We are still in the information gathering stage.

People with different agendas are carelessly using the word 'contaminated' with reference to public drinking water. Technically, the definition of contaminated is: making something impure by exposure to or addition of a poisonous or polluting substance. Water can be contaminated by many different sources; naturally occurring geological factors, animals, agriculture, and manmade substances. However, I think when people hear "contaminated water is served" they believe it to be unsafe to drink. With the facts we have right now, I do not believe that is the case with the Town of Coupeville's drinking water. According to the County and State agencies charged with protecting public health, the Town's drinking water is safe.

You will hear people cite different countries and states who consider levels lower than 70 ppt to be unsafe. You will hear people claim to be 'experts' on PFOA and PFOS. Some people are holding public meetings, bringing in 'consultants' to talk about these compounds. I would remind you to question the information you are hearing. Just because we live in an age of instant information, does not make all people experts, or all sources credible, or all motives pure. Ask questions, be informed.

I do not claim to be an expert on safe drinking water. I have chosen to follow the advice, recommendations and requirements of the Environmental Protection Agency, the Agency for Toxic Substances and Disease Registry (a branch of the Center for Disease Control), the State Department of Health (DOH) and Island County Public Health. Using their guidelines, the Town of Coupeville's water is safe to drink. Do I wish our water was 100% free of all impurities? Yes. Do I think this is a realistic goal for water these days? No. Even though there may be some level of "contaminants" in drinking water, those levels may be such that they don't pose a threat to public health. And if the levels of any given "contaminant" exceed the water quality health standards set by the appropriate regulatory authorities, we would treat the water to reduce the level of "contaminant" so that it meets those water quality health standards.

I don't want to give the impression that this is not an important issue. It is. Safe drinking water is vital to the health and well-being of any community. I also understand this is just the beginning of the story. The EPA could lower their lifetime advisory threshold. The DOH could decide to regulate these compounds. We need more information on private wells and ground water movement. We need to take care of the individual homeowners with effected wells. We will continue to test the Town wells out of an abundance of caution. We will be vigilant and aggressive in our responsibility to provide the Town of Coupeville with safe drinking water. We will continue to be completely transparent as new issues arise and new information is received.

What's my bottom line on this subject? Don't panic. Don't make careless comments that can cause fear and distrust among your neighbors. Don't call into question the safety of our drinking water because you are trying to fortify your comments on the EIS. Don't thoughtlessly make a comment about Coupeville's coffee houses and restaurants that could affect their business. Please, please, act and speak responsibly.

And the absolute bottom line...The experts in regulating public water supply will confirm that the Town of Coupeville's water meets statewide standards and is deemed safe to drink.

I am always available and happy to answer questions about our drinking water or any other subject. You can find me in Town Hall...or a local coffee shop...or one of our many wonderful restaurants.

Molly Hughes
Mayor

FOR IMMEDIATE RELEASE

TOWN OF COUPEVILLE PRESS RELEASE – December 23, 2017

Town of Coupeville Wells – Water Sample Results from the Navy

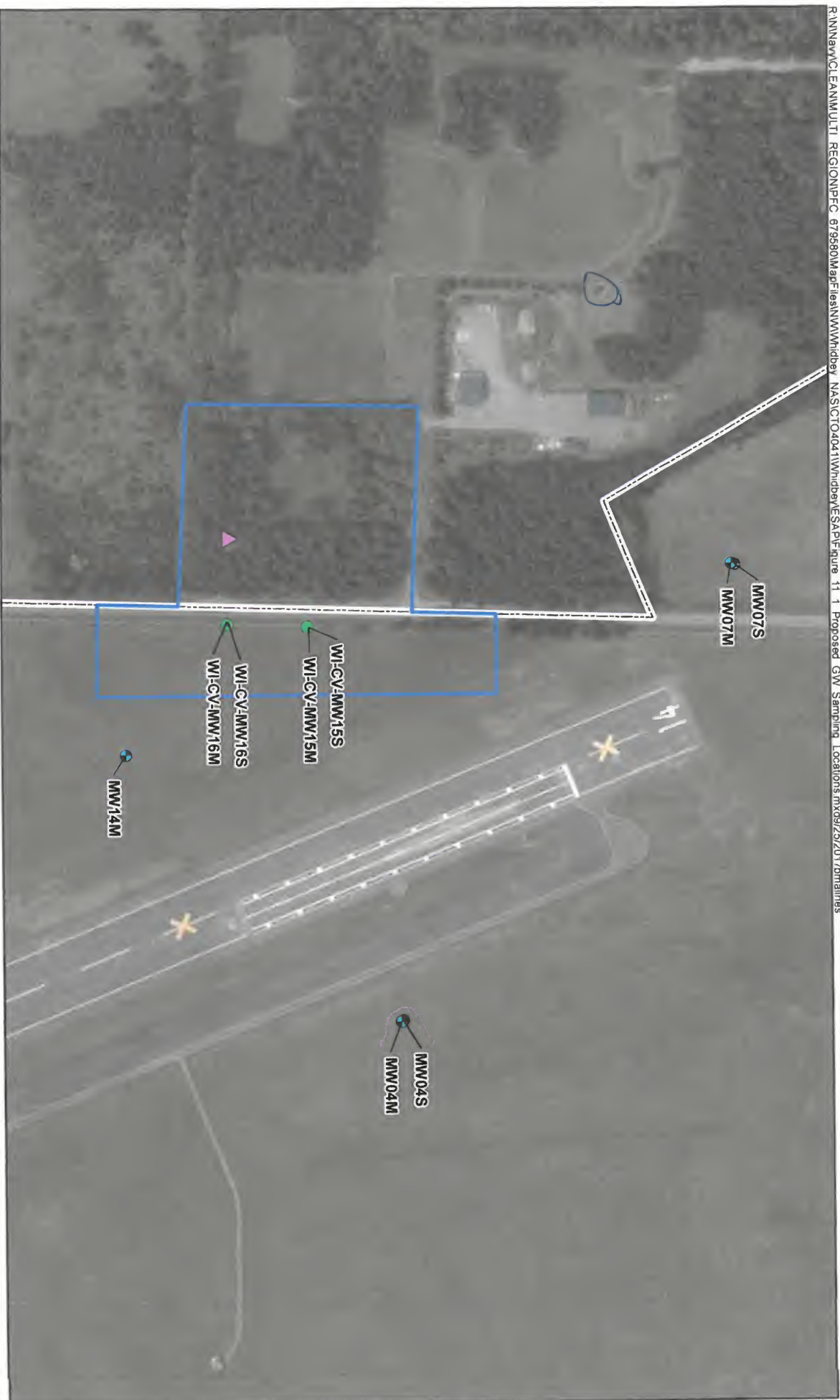
The Town of Coupeville has received the results of the water testing performed by the Navy on Town wells and at entry to distribution. The Navy's test results were very similar to the Town's independent testing. Perfluorooctane sulfonate (PFOS) was not detected in any of the four wells tested or at entry to distribution. Perfluorooctanoic acid (PFOA) was not detected at the three Ft. Casey wells. PFOA was detected at 61 parts per trillion (ppt) at the Keystone well and at 38 ppt at the entry to distribution.

In November, the Town of Coupeville took two water samples from the Keystone well and two samples at the entry to distribution. The Town's results revealed PFOA at 59 and 62 ppt at the Keystone well and 25 and 27 ppt at entry to distribution. The Town blends the water from the three Ft. Casey wells and the Keystone well before it enters the water treatment plant and its distribution system. Where the blended water enters the distribution system is called the entry to distribution. The variance of the Town and Navy's result at entry to distribution is likely due to slightly different pumping levels of the various wells, at the different sampling times.

The uniformity of the results received from two different sampling events, taken by two different samplers and processed at two different laboratories lend credibility to both the Town of Coupeville and the Navy's water test results. All results, at all locations, taken by both the Town and the Navy fall below the EPA's lifetime advisory level of 70 ppt. The lifetime advisory, set by the EPA, establishes a level that is intended to be safe and protective against adverse health effects for individuals consuming water for an entire lifetime. Although the EPA advisory level is not a legal requirement for public water systems, the State Department of Health encourages public water systems to follow the EPA Health Advisory for these compounds.

The Town of Coupeville will continue to work with our Public Health partners in Island County and the State Department of Health to determine what steps, if any, are needed to monitor the water provided by the Town of Coupeville.

The Navy has created a website to keep the public informed of their testing and results. The website is <http://go.usa.gov/xkMBc>. The Navy continues to test private wells in the vicinity of OLF Coupeville. You can see a map of the area being tested by going to the website, clicking on OLF Fact Sheet at the end of the page, and looking at the area shaded in purple. If you live within the purple Phase 1 area you may schedule water sampling for your residence by leaving a voice mail at 360-396-1030 or by emailing PAO_feedback@navy.mil. We encourage all private well owners in this area to take advantage of the Navy's offer to pay for the testing of your well and get the facts.



Legend

- Proposed Observation Well
- Well Location
- ▲ Keystone Well Location
- Proposed Section 106 Clearance Area
- Base Boundary



1 inch = 300 feet

Imagery Source: Esri

Figure 11-1
Proposed Groundwater Sampling Locations
Outlying Landing Field Coupeville
Naval Air Station Whidbey Island
Coupeville, Washington

For Official Use Only

5726
Ser N46/
January xx, 2018

NAME
STREET ADDRESS
CITY STATE ZIP

Dear XX:

SUBJECT: LONG-TERM DRINKING WATER SOLUTION FOR COUPEVILLE RESIDENTS

I am writing to you regarding the U.S. Navy's drinking water investigation near Naval Air Station Whidbey Island's Outlying Landing Field Coupeville. I am pleased to inform you that we have a long-term solution to mitigate exposure to per- and polyfluoroalkyl substances (PFAS) detected in your drinking water well. The Navy has determined that connecting your home to the Town of Coupeville's water distribution system to be the most efficient and protective method of addressing PFAS at your residence. The Navy is also working with the Town of Coupeville to install pretreatment on their system.

The implementation of this action will include the following:

- Obtain all required real estate documentation and permits,
- Add pretreatment to the Town's drinking water system,
- Monitor drinking water to maintain effectiveness of the pretreatment system and ensure the Town's drinking water remains below the EPA's lifetime health advisory,
- Extend the Town's water line to your property,
- Install the water line to your home and disconnect your home from your existing well, and,
- Flush the household piping with the Town's water.

While these actions are occurring, the Navy will continue to provide you with bottled water. We also maintain the offer to install a point-of-use treatment option as an interim solution to address the challenges with bottled water.

I am inviting you to a private meeting to discuss how we reached this decision and the anticipated timeline for implementation. The meeting will be held at:

The Chief Petty Officers' Club
Wednesday, January 24, 2018, 5:00pm to 7:00pm
1080 West Ault Field Road
Oak Harbor, WA 98277

This is a closed meeting for impacted well owners in Coupeville that are currently receiving bottled water from the Navy to discuss the implementation plan. Representatives from the Navy, Town of Coupeville, Island County Public Health, and Washington State Department of Health will be present to answer your questions pertaining to the long-term solution.

We would sincerely appreciate advance notification of any questions you have on this topic prior to the meeting. Please email all questions to the Navy Public Affairs Officer, Leslie Yuenger at PAO_feedback@navy.mil.

Thank you for your patience as we work to resolve this issue.

Sincerely,

G. C. MOORE
Captain, U.S. Navy
Commanding Officer
Naval Air Station Whidbey Island

CC: Attorney for those who have representation

Agreement to engineer, install and pay for water mains and hook-up fees to connect eight private wells to the Town's water system.

Agreement to engineer, install and pay for the treatment filter for the Town of Coupeville's water treatment plant. Agreement should include long term maintenance of the filters.

Navy to obtain and possibly pay for easements on private property for the new service lines.

Navy to obtain easements on County property.

Coupeville must update our Water Management Plan with the DOH.

Navy to obtain approval from DOE, DOH, and Island County of treatment system?

Town need to obtain approval from DOE for water rights?

Town need to amend its water comprehensive plan for the new service lines?

Confirm that all new customers will pay the going rate for out-of-town service. Customer or Navy to pay?

When the new treatment system wears out and the contamination has not been cleaned up, what is the Navy's commitment?

What is the Navy's commitment if the levels of contaminants cannot be effectively treated now or in the future with carbon filter?

Will the Navy cover any new or existing homes that choose to hook-up to Town water?

Agreement to test and monitor the migration of plume and water quality from the Town system. How long?

How and when will the ultimate clean-up happen?

Will Navy financial commitments be conditioned on annual budget appropriations by Congress? Can their commitments transcend over more than one budget year?

Will Navy agree to indemnify the Town from claims made by customers and regulatory agencies?

If the Navy is the project manager for the service line and treatment improvements, will it:

Follow WA State public bid and public works legal requirements in RCW 39.04 and 39.06

Follow consultant procurement requirements in RCW39.80?

Be the lead agency on SEPA and other environmental requirements/

Will an EIS be required?

Secure all required permits from State, County and Town?

Agree to allow the Town to have final review and approval over the design and specifications for the water line and treatment?

yes
in cooperative
agreement
only last
2 yrs.



giving
Copies
agreed

Under CTC 13.08.050 it appears the Town Council will need to approve the method of payment for any extension of the water line outside of Town.

Town Council will need to approve each agreement as it is required.

Will the Navy agree to comply with CTC 13.08.160 – Standard of construction for utilities?

Agreement on how the public will be notified about mitigation and news in the future.

13.08.050 - Cost of extension of water service inside and outside of the Town.

- A. The entire cost of the extension of the water system and the upgrading of existing facilities to permit the extension of the system, including both labor and materials, shall be paid by the water user or users to be served by the extension, and all materials installed in such extension from the point of the town's water mains up to and including the individual meter or meters shall be the property of the Town.

Notwithstanding the aforesaid, where existing facilities must be upgraded to permit the extension of the system, the Town may enter into a cost sharing agreement and/or latecomer agreement for the portion of the project cost that is attributable to the required upgrading of the system. The town's share of the cost shall not exceed seventy-five (75) percent of the total value of the project, and the latecomer agreement shall be for a period not to exceed fifteen (15) years. The town's share of the cost of a project may be made in the form of a credit for one or more water hook-up fees for water connections to lots supplied by the water main extension.

- B. The Town shall authorize no extension of the water system until the town council has approved the proposed method for the payment of the extension of the water service.

(Ord. 626 § 3 Att. B (part), 2002)

Coupeville Treatment and Water Connection Information Needed
Treatment System
<ul style="list-style-type: none"> Navy Right of Way with Town for construction
<ul style="list-style-type: none"> Approval from WA DOH (approve design and work plans)
<ul style="list-style-type: none"> Approval from Town Council
<ul style="list-style-type: none"> Approval from Island County Public Health (approve design and work plans)
<ul style="list-style-type: none"> When do we absolutely need to add treatment to Town's water?
<ul style="list-style-type: none"> Add treatment to well or in the treatment plant?
<ul style="list-style-type: none"> When does the Town plan to stop pumping from the other wells in Fort Casey well field?
<ul style="list-style-type: none"> Size of laydown area for filtration system
<ul style="list-style-type: none"> Size of vessel and # vessels
<ul style="list-style-type: none"> Is there enough room to change out media through existing garage door? New building?
<ul style="list-style-type: none"> What is the Town's timeline for changing out the media in the current plant?
<ul style="list-style-type: none"> Need cooperative agreement process from contracting for CA with O&M
<ul style="list-style-type: none"> Is a new source well an option instead of treatment? (Rhododendron Park)
Water System Connections
<ul style="list-style-type: none"> Where is the best place to connect to the existing Town's water line?
<ul style="list-style-type: none"> Easement from Island County and residences (water lines) - What is the town's process for obtaining easements? Need timeline
<ul style="list-style-type: none"> Electrical requirements along new pipeline to homes?
<ul style="list-style-type: none"> Does the Town's plant have the capacity to provide water to other homes along new pipeline?
<ul style="list-style-type: none"> Can we connect to residences now and provide water?
Other info
<ul style="list-style-type: none"> Can well water be used for crops or do the wells have to be decommissioned?

Landscaping

13.08.010 - Water rates.

- A. All customers who are either connected to the town's water system, have a water hookup right, or have a water connection permit shall pay the applicable following water rate and service and reserve capacity charges.
- B. Rates. The monthly rate per cubic foot for water supplied by the municipal water system of the Town shall be as follows:

	In-Town Customer	Out-of-Town Customer
October through May	\$0.0275	\$0.0412
June through September	0.0412	0.0618

- C. There shall be a monthly service and reserve capacity charge based on the size of the water meter. These charges are as follows:

Meter Size	In-Town Customer	Out-of-Town Customer
$\frac{3}{4}$ — 5/8 inch	\$ 13.33	\$ 20.00
1 inch	22.66	34.00
1.5 inch	44.00	66.01
2 inch	70.65	106.00
3 inch	142.64	214.01
4 inch	222.63	334.03
6 inch	444.34	666.52

- D. Fire Services. The service and reserve capacity charge for fire services (fire hydrants or fire sprinkler systems on private property) shall be based on the number of three-fourths-inch detector meters on backflow prevention assemblies that are either installed, or required to be installed, by the Town as outlined in Section 13.08.140 of this chapter.
- E. The service and reserve capacity charges apply to any authorized connection or water hookup right,

13.08.020 - Water hook-up right fees.

- A. Water Hook-Up Right Fees. Prospective and existing customers of the Coupeville municipal water system shall pay the Town the hook-up fees as listed below prior to the installation of meters by the Town and prior to the commencement of initial water service or the expansion of existing water service. These fees for a new or increased water hook-up right are for the pro rata share of the cost of the existing water system plus the cost of the capital improvements attributable to increased system capacity to allow the additional hook-up right. Hook-up right fees shall be based on the town's assessment of the customer's water demand in terms of equivalent single-family residential unit (ERU). One ERU is the amount of water assumed in the water system design for the maximum day demand (MDD). The quantity of water for one ERU shall be the amount established in the town's water system plan approved by the Washington Department of Health.

The minimum assessed water MDD per customer is 1 ERU. For multi-family and mixed use premises, the number of ERUs assessed to a customer shall be rounded upward to the nearest ½ ERU.

Customer Classification	Water Hook-up Right Fee
In-Town Customer	\$ 4,500.00 per ERU
Out-of-Town Customer	\$ 9,000.00 per ERU

The Town shall reassess a customer's water demand for a change of property use or expansion of premises. The owner or contract purchaser of property with a change in occupancy or application for building permit shall pay any additional hook-up right fee assessed for expansion of service. The Town shall not give a refund for a reduction in service.

- B. A separate fire service pipe equipped with a "detector meter" for automatic fire sprinklers and/or on-site hydrants shall be exempt from the above hook-up right fees.
- C. Prospective customers shall, at the time of application for service, specify the type and scale of use proposed for the service. Town approval of a hook-up shall be contingent upon the hook-up serving the use specified at the time of application. During the duration of the service, the Town shall have the authority to disapprove changes in use of a service or apply restrictions or conditions to approval of a change of use necessary for proper system operation and protection of public health.
- D. The property to which any water hookup or hookup right pertains, including hookup rights existing on the date of the ordinance codified in this chapter, shall be identified by the property owner in a manner satisfactory to the Town by a single street address, or a single lot number and plat description, or a single Island County tax parcel number.

(Ord. 626 § 3 Att. B (part), 2002)



<http://www.chron.com/news/houston-texas/article/Crown-Central-to-pay-for-22-air-pollution-2017604.php>

Crown Central to pay for 22 air pollution violations

Company to pay for 22 air pollution violations

Crown Central holds record for largest fine ever levied in state

By **Tony Freemantle** Published 6:30 am, Thursday, November 8, 2001

ADVERTISEMENT

State environmental officials approved a \$350,000 fine Wednesday against Crown Central Petroleum Corp. for 22 pollution violations at its Pasadena refinery.

The corporation, which already holds the record for the largest fine ever levied in the state for air pollution, agreed to the fine for repeat violations that occurred between 1995 and 1998, the **Texas Natural Resource Conservation Commission** said.

The TNRCC said Crown did not properly maintain and operate valves and equipment, did not report continuous emissions monitoring data, and discharged into the atmosphere twice the amount of nitrogen oxide allowed by its permit.

The \$350,000 fine agreed to Wednesday brings to a close enforcement action against the company. Other infractions led to a fine of \$1,055,425, which still stands as the largest administrative air pollution penalty ever assessed against a company in Texas.

That penalty was nearly double the previous record of \$576,000 for air pollution.

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"The TNRCC believes Crown's environmental record clearly exhibits a pattern of

serious wrongdoing," the agency said in a statement.

Paul Sarahan, the TNRCC's director of litigation, said Wednesday the agency had been dealing with Crown violations back to 1988. There are no outstanding violations pending against the company, he said.

"We have had serious problems in the past," Sarahan said. "The two penalties are very significant. The additional pieces of the puzzle are now to return the facility to compliance."

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Thomas Owsley, Crown's general counsel and corporate secretary, said the company has implemented all the changes ordered by the TNRCC and that since 1998 its compliance record "has been exemplary."

Rick Abraham, the executive director of the environmental group Texans United who, along with other environmentalists, filed a citizen's lawsuit against Crown in 1997, said that although the company's record had improved, it committed several more violations after 1998.

Abraham said his organization, along with Trial Lawyers for Public Justice, the **Sierra Club**, the **Natural Resource Defense Council** and people who live near the refinery, filed suit against Crown because they believed the TNRCC was not going after the company with enough vigor. The federal **Clean Air** Act allows citizens to sue polluters when state regulators fail to enforce environmental regulations.

Crown agreed to settle the suit for \$1.6 million last February. The majority of that money went to pay the TNRCC fine, some went to settle federal enforcement actions and \$100,000 was paid to the Harris County Pollution Control Department for air monitoring and sampling.



Galveston Daily News "Rick Abraham"



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The Galveston Daily News from Galveston, Texas on April 27, 1989 ...

<https://www.newspapers.com/newspage/13390278/> ▾

Apr 27, 1989 - The Galveston Daily News (Galveston, Texas), Thursday, April 27, 1989, Page 16. ... Sunil Kumar Raiput, 17, Chander Singh, Satinath Sarangi and Rick Abraham, director of Texas United, : were arrested before 10 a.m. after they refused to put down a banner, signs and flyers before entering the hotel lobby, ...

The Galveston Daily News from Galveston, Texas on September 2 ...

<https://www.newspapers.com/newspage/13691825/> ▾

Sep 2, 1993 - The Galveston Daily News (Galveston, Texas), Thursday, September 2, 1993, Page 11. ... While hailed by Richards, the new agency drew "serious concerns" from Rick Abraham of Texans United. The environmental group has opposed some permits granted by the state to businesses. "Our major concern is ...

The Galveston Daily News from Galveston, Texas on February 22 ...

<https://www.newspapers.com/newspage/36370838/> ▾

Feb 22, 1994 - The Galveston Daily News from Galveston, Texas Edition date and page: Tuesday, February 22, 1994, Page 9.

The Galveston Daily News from Galveston, Texas on February 6, 1999 ...

<https://www.newspapers.com/newspage/14012870/> ▾

Feb 6, 1999 - The Galveston Daily News from Galveston, Texas Edition date and page: Saturday, February 6, 1999, Page 1.

The Galveston Daily News from Galveston, Texas on October 1, 1991 ...

<https://www.newspapers.com/newspage/17134595/> ▾

Oct 1, 1991 - The Galveston Daily News from Galveston, Texas Edition date and page: Tuesday, October 1, 1991, Page 9. ... Pollution in Texas has killed people, has destroyed families and communities," said Rick Abraham, executive director of Texans United. Lawmakers earlier approved a four-month moratorium on ...

The Galveston Daily News from Galveston, Texas on March 29, 1995 ...

<https://www.newspapers.com/newspage/16850793/> ▾

Mar 29, 1995 - The Galveston Daily News (Galveston, Texas), Wednesday, March 29, 1995, Page 10. ... public relations problem, which they tried to fix with rhetoric and slick public relations programs," said Rick Abraham, director of Texans United, a nonprofit environmental organization that assists polluted communities.

The Galveston Daily News from Galveston, Texas on November 20 ...

<https://www.newspapers.com/newspage/11507161/> ▾

Nov 20, 1987 - Publication: The Galveston Daily News i; Location: Galveston, Texas; Issue Date: Friday, November 20, 1987; Page: Page 1 Rick Abraham, southern regional organizer for the National Campaign Against Toxic Hazards based in Boston, and Fred Millar, director of the Toxic Chemicals Safety and Health ...

The Galveston Daily News from Galveston, Texas on May 5, 1989 ...

<https://www.newspapers.com/newspage/13395468/> ▾

May 5, 1989 - The Galveston Daily News (Galveston, Texas), Friday, May 5, 1989, Page 7. ... Arrested along with the survivors of the Bhopal disgrace was Rick Abraham of Texans United, an environmental organization whose office is in Houston. Union Carbide knew that these people were there, yet they made no ...

The Galveston Daily News from Galveston, Texas on December 3 ...

<https://www.newspapers.com/newspage/11528898/> ▾

Dec 3, 1987 - Thursday, December 3, 1987 LVESTON DAILY NEWS 3-A State surety board allows AIDS testing requirement AUSTIN (AP) - The State Board of ... Fred Millar of the Environmental Policy Institute in Washington, D.C., and Rick Abraham of the National Campaign Against Toxic Hazards in Austin, are two of ...

Galveston Daily News Newspaper Archives, Mar 16, 1996, p. 11

<https://newspaperarchive.com/galveston-daily-news-mar-16-1996-p-11/> ▾

Galveston Daily News (Newspaper) - March 16, 1996, Galveston, Texas GALVESTON COUNTY TEXAS SATURDAY MARCH 16 1996 11A BUSINESS ... has poured processed wastewater into the Houston Ship Channel from 1989 to 1995 The problem is with said Rick Abraham spokesman for Texans United Exxon is ...

practices and are trying to help the working class who live up against their fences,” Rick Abraham, a Texans United spokesman. “The type (of community) a large company likes to write off.”

He said he suspects Exxon was unhappy with his group because he had been openly critical of the company’s toxic emissions, protested the disastrous Alaska oil spill in front of the plant on Earth Day and obtained a sample of discharge water leaving the plant site, which was proved to contain 38 percent petroleum products.

Embry said Abraham had been “irresponsible” for hanging a huge protest sign on the company’s main gate and twice trespassing on company property.

“We want to work with our neighbors,” he said.

Houston Chronicle, Sunday June 25, 1989.

Later in the summer of 1989, Fulton concluded that Abraham was not working with him in good faith and warned BayCap that Exxon would only work with BayCap if Abraham was not involved. BayCap would not agree to that term, and its meetings with Exxon ended.

Soon thereafter, Abraham brought a slander suit against Fulton, Embry and Exxon. Exxon, Abraham alleged, was liable under the doctrine of *respondeat superior*.

During the next nine years, in which the parties engaged in extensive pre-trial discovery, Abraham repeatedly amended his petition, each time adding either new factual allegations or causes of action concerning an increasing array of alleged statements by Fulton, Embry, and other unnamed Exxon employees about Abraham.

After a first trial in 1994 ended in a mistrial, the parties were called to trial in April 1998. Before the jury returned with a verdict, the trial court granted Exxon’s Motion for Partial Summary Judgment, which held portions of Abraham’s defamation and intentional infliction of emotional distress claims were barred by limitations. The jury returned a verdict finding Fulton and Embry did not defame Abraham. The trial court rendered judgment on this jury verdict that Abraham take nothing by his claims against Fulton, Embry, and Exxon.

ANALYSIS

Legal questions – what are the next steps?

Our Town attorney feels it would be a good idea to write a Letter of Understanding between the Town and the Navy that spells out some of the key points of what will be happening in the next year. Nothing too formal or detailed at this point. I would like to take this step so I have more formal approval from my Council to continue negotiating and making commitments on the Town's behalf.

We think this letter or memorandum of understanding would be separate from a maintenance and operation agreement that will be needed closer to the end of the construction stage.

If you think it would be a good idea to get our attorneys in the same room to talk about this, or any other matter involved with this huge undertaking, our attorney, Grant Weed, could be available to meet in Coupeville on February 12, 13 or 15.

Key Points

- The Navy, will be designing and constructing a filter system for the Town of Coupeville's water treatment plant to treat for PFOA and PFOS.
- The Navy, will be designing and constructing new service lines and private lines to connect the owners of eight private wells (10 homes?) to the Town of Coupeville's water system.
- The Navy will design a water filter system that may be adapted or changed if federal or state regulations change regarding PFAS. Any future adaptations required by federal or state regulations will be at the expense of the Navy.
- The Navy agrees to consult with the Town of Coupeville's Utility Superintendent, Public Works Superintendent and the Town Engineer on these projects.
- The Navy will be the lead agency for all environmental review for both projects.
- The Navy will be the lead agency for all necessary permits for both projects.
- The Navy will be responsible for conducting any pilot studies that may be required.
- The Navy will be responsible for obtaining all necessary approvals from the Department of Health and Island County for both projects.
- The Navy or its contractor will reimburse the Town of Coupeville for any out of pocket expenses incurred for both projects.

Other considerations/questions from our Town Attorney

Coupeville Town Code 13.08.050 requires the Town Council to approve the method of payment for any extension of the water line outside of the Town limits.

What will the Navy do if the levels of contaminants cannot be effectively treated now or in the future?

What will the Navy do when these improvements to the Town's capital improvements wear out or need replacement? What is the long term plan?

If any of the properties served by private, contaminated wells can be subdivided, will the Navy pay for new connections?

What will be the long term plan for testing and monitoring the Town's water and the migrations of the plumes?

Will the Navy's financial commitments be conditioned on annual budget appropriations? How long can the M & O agreement run, more than one or two budget years?

Will the Navy agree to indemnify the Town from claims made by customers and/or regulatory agencies resulting from contaminants?

Will the Navy agree to comply with Coupeville Town Code 13.08.160 requiring the installation of new water mains, services and meter settings will be in accordance with Town standards for construction?

PFAS Coupeville Private Resident Meeting
Questions & Answers
January 29, 2018

Question 1: How did the Navy choose this long-term solution option over new wells or individual filters for private wells?

Answer 1a: Treatment of the Town of Coupeville's drinking water system is the most protective and efficient method of addressing PFAS contamination to impacted private wells with minimal disturbance to the home owners and also protects the Town's water. The following are reasons why this is the most protective solution for homes in Coupeville.

- Adaptable – The system will be designed to be adaptable to address changes in regulatory status. For example, if new PFAS regulations or applicable advisory levels are established, the Navy will be able to adjust the treatment system, as necessary. PFAS concentration and distribution within the aquifer is not yet fully defined. Subsequent investigations will focus on resolving these unknowns. While this investigative process is underway, the Navy's priority will be to reduce any identified exposure.
- By connecting your home to the Town's water distribution system, changes in the PFAS contamination level in the aquifer can be managed at the treatment plant and will not require further access or coordination access to your property.
- Extending the Town's water service lines to your neighborhood will ensure that any other private wells testing positive for PFAS compounds above applicable regulations or advisories in the future can be connected to the Town's treated water system.

Answer 1b: Due to the local hydrogeology and migration of PFAS into the drinking water aquifer, installing new wells on your property will not provide your home a source of water below the PFOS/PFOA lifetime health advisory.

Answer 1c: Placing individual filters on each home would require reoccurring and frequent visits to your home to sample your water and replace the filters for the foreseeable future.

Question 2: What will the Navy pay for? I don't pay for my water now. Do I have to pay the monthly water fee?

Answer 2: The Navy will pay all installation costs, including the water line and meter set up fees. The Navy's Environmental Restoration program is not authorized to pay for recurring water fees. The homeowners will pay monthly water usage fees.

Question 3: How long will it take to connect the homes to the Town's water system?

Answer 3: Absent of any unforeseen circumstances, we estimate the design, construction, and verification of the water distribution lines and the modifications to the Town's treatment plant will take up to 1.5 years.

This work includes the following:

- Obtain all required real estate documentation and permits.
- Obtain approval for the modifications to the Town's water treatment system from the State of Washington Department of Health
- Extend the Town's water line to your property
- Install the water line to your home and disconnect your home from your existing well
- Flush your home's piping with the Town's water
- Ensure the water in your home is below the EPA's lifetime health advisory for PFOS and PFOA.

In the meantime, the Navy will continue to provide you with bottled water. We will also continue to offer you the point-of-use option (i.e., filter under your kitchen sink) to mitigate the challenges you may be experiencing with bottled water prior to connecting you to the Town's water system.

Question 4: What type of new treatment are you installing at the Town's drinking water treatment plant?

Answer 4: We are still evaluating the optimal treatment media and configuration. It will likely be a granular activated carbon (GAC) media system.

Question 5: If you're installing a filter to the Town's system, why not at my well head?

Answer 5: See Answer 1b-c above.

Question 6: Is it possible to connect our homes prior to the new treatment system being installed at the Town's drinking water treatment plant?

Answer 6: We are evaluating this option. We are designing the Town's PFAS treatment system and water line distribution system concurrently. The capability to connect your home prior to completing the treatment system installation is dependent on this timeline.

Question 7: What will you do to my well and property?

Answer 7a: We will first need to obtain a real estate agreement with you that will grant the Navy temporary access to your property to:

- Install a water line and water meter on your property and disconnect your home from your existing well.
- Sample the water in your home to ensure it's detected below the EPA's lifetime health advisory for PFOS and PFOA.
- If you would like your well taken out of service (i.e., decommissioned), the Navy will do so at no cost to you.

Answer 7b: We would like to use your well for periodic monitoring to monitor the movement of the plume and potential impact to other water sources nearby. We will obtain a separate real estate agreement with you to conduct this monitoring.

Question 8: This installation will dig up my flower beds/landscape, will you fix this?

Answer 8: Yes. We intend to restore your yard to the condition it was in prior to work being performed.

Question 9: If I don't want to hook up to the Town's water, will you continue to provide me with bottled water and for how long?

Answer 9:

The Navy implemented the response action of bottled water immediately after identifying wells with drinking water concentrations of PFOA/PFOA above the EPA lifetime health advisory. The will continued to provide bottled water until the more protective and permanent drinking water solution is implemented. For those residents who decline to participate in the long term solution, the Navy will maintain the original response action, bottled water until a remedial action decision is made under the CERCLA process. This process can take up to several years depending on complexity.

Question 10: What is the timeline for point-of-use filter installation, verification, and use?

Answer 10: The Navy plans to install these filters between March and April 2018 and plans to sample the water to verify the point-of-use filtration system's performance over a 12-week period. The Navy estimates that the filtration system will be functional by May 2018. The Navy will provide bottled water until we verify the system is performing effectively.

Question 11: Who will construct and manage the Town of Coupeville's drinking water treatment system?

Answer 11: The Navy will construct the system in coordination with the Town of Coupeville, Island County Public Health, and Washington Department of Health. The Navy will fund operation and maintenance of the system. The Navy and Town of Coupeville will develop a mutual agreement for future maintenance.

Question 12: What are the criteria to hook up other users?

Answer 12: If drinking water sampled by the Navy is found to exceed the EPA's lifetime health advisory at other households, we will immediately provide those residents with bottled water until they can be connected to the Town's water system.

Question 13: Will the Navy hookup residents that do not have drinking water over the EPA's lifetime health advisory?

Answer 13: See the response to Question 12, above. The Navy will make decisions on a case by case basis based on the current regulations, groundwater plume information, and residents' drinking water PFOA/PFOS results.

Question 14: Who is responsible for the PFAS contamination?

Answer 14: Contamination can happen under many different circumstances through a variety of sources. The Navy is being proactive and taking action to address contaminants as they are discovered and to investigate PFAS concentration and distribution within the aquifer, as this is not yet fully defined. The Navy's first priority is to ensure that drinking water remains safe.

Question 15: Is the water system going to be designed for population growth?

Answer 15: Yes. Population growth is being considered in the treatment system and water distribution design.

Question 16: Will we be compensated for our drinking water well installation, septic system construction, and water filtration unit sunken costs?

Answer 16: The Navy's Environmental Restoration program is not authorized to pay for previous construction costs, including your drinking water well. Any claims will need to be adjudicated through the appropriate Government claims process.

Question 17: What additional investigation is going on at OLF Coupeville?

Answer 17: In December 2018, the Navy installed four new monitoring wells and conducted a groundwater test on OLF. We collected groundwater levels and samples from the new wells and other wells on base in order to gather information regarding the impact of pumping rate at the Keystone Hill well (Town's primary water source well) on groundwater flow directions and relative PFAS concentration.

Question 18: Why are no representatives from the engineering company CH2M slated to attend this meeting? The bulk of our questions are for them.

Answer 18: The Navy's project manager will be present at the meeting to answer questions about the treatment system design. We are very early in the design planning process, and may not have all the answers to your questions on the design at this time. We will follow-up with additional information as it becomes available and is approved by the Department of Health and will have appropriate experts available when the design is complete.

Question 19: Will the proposed filtration be designed for PFOA, PFHxA and specifically PFHxS which has the longest half-life in (8.5 years) in the body? It is the predominant contaminant in the Coupeville tap water.

Answer 19: The Town of Coupeville's drinking water treatment system design will ensure PFOA and PFOS remain below the lifetime health advisory. If other applicable advisory limits or regulations are established for PFAS compounds, then Navy will adjust the treatment design as necessary to maintain protectiveness and follow applicable standards.

Question 20: Is there compensation for residents who had long exposure to PFAS documented by blood testing and with toxic loads, who have since moved?

Answer 20: The Navy's Environmental Restoration program is not authorized to pay for blood testing and other medical costs associated with potential exposure to PFAS. Any claims will need to be adjudicated through the appropriate Government claims process.

Question 21: The OLF sits on top of Smith Prairie's unprotected aquifer. There can be NO further storage or use of fluorine based AFFF at the OLF. There are alternative biodegradable foams. Also, in the event of a crash, will there be immediate excavation of the crash site to avoid contamination with PFAS in the hydraulic fluid?

Answer 21: The Navy no longer uses AFFF in firefighting training exercises. The Navy's goal is to minimize any potential impacts where AFFF may be used in emergency situations. In the event AFFF is used to extinguish a fire, the foam will be cleaned up to the extent practical after the fire is out and it is safe to access the site.

PA *Question 22: How frequently will Coupeville's water be tested using the 14 PFAS testing and level limits? We will need to be privy to these results.*

Answer 22: The Navy plans to sample the Town's water at least twice a year. We are developing the periodic monitoring plan at this time, which includes the frequency of resampling drinking water wells. The Navy will provide the drinking water results to the Town and the Town will make the decision whether to provide the results to their customers.

PA *Question 23: If your filtration is inadequate to remove PFHxS, will additional reverse-osmosis filters be incorporated?*

Answer 23: The Town of Coupeville's drinking water treatment system design will ensure PFOA and PFOS remain below the lifetime health advisory. If other applicable advisory limits or regulations are established for PFAS compounds, then Navy will adjust the treatment design as necessary to maintain protectiveness and follow applicable standards.

Question 24: Will CH2M be project manager for both design and construction?

Answer 24: The Navy will manage both projects and oversee CH2M's work.

Question 25: How will well owners be involved in design ideas, oversight and impact to their property for new water lines?

Answer 25: The residents will be involved selecting the location for the new water line on their property. The Navy will obtain a real estate agreement with each property owner to install the water line.

Question 26: Who will be in charge of updates, communication and problem solving? Navy, Coupeville Water, subcontractors

Answer 26: The Navy will work with the Town of Coupeville's leadership to ensure communication about the project.

PA *Question 27: How soon will preliminary plans be available for review by homeowners?*

Answer 27: The Town's water treatment system's design will be reviewed by the Navy, EPA, Island County Public Health, and the Department of Health at several points during development. The residents will be involved selecting the location for the new water line on their property. The Navy will obtain a real estate agreement with each property owner to install the water line.

Question 28: Will the Navy be paying for road or easements?

Answer 28: The Navy will pay for necessary agreements, such as leases or easements, which may be required to complete the construction.

Question 29: Would the Navy please consider a series of future reviews (similar to tonight) to update

impacted property owners and disseminate data?

Answer 29: Yes, we will consider that.

Question 30: Will the new water line only supply the home or will it tie into existing water system which supplies other water faucets on the property?

Answer 30: All of your home's water will come from the Town of Coupeville's treated water system.

doesn't answer question

New Found PFAS Contamination of Coupeville's Water Unanswered Questions About Navy Filtration Plans

The Navy's agreement to pay for filtering Coupeville's water to lower its PFAS contamination is welcome and long overdue. However, the Navy is only partially addressing a problem it has caused.

It's been more than a year since perfluoroalkyl substances (PFASs) leaking from the Navy's Outlying Field (OLF) were found in the Town's water. Neither the Town nor Navy will say when a filter system will be installed. It could be a year or more according to Island County's point person with the Navy. Until then, Coupeville homes, schools and the hospital will continue to receive water containing PFASs that exceed the health guidelines of several states.

Even after the yet-to-be-designed filter is installed, the Navy acknowledges that PFASs will not be entirely removed. When asked for details of the planned filtration, such as reduction goals and monitoring details, the Navy replied in January 25 email that it was "exploring options" and "has no specifics to share."

The Town's glowing praises of the Navy's plans came a week after the Town received test results showing PFAS contamination of its Fort Casey wells a mile from the OLF, in addition to the Keystone well located next to the OLF. This means both of Coupeville's well fields have PFAS contamination—something the Town and Navy did not mention in their statements to the news media.

In addition to PFOA and PFBS, the Navy found PFHxS, PFHxA and PFHpA in the Fort Casey wells and Keystone wells. These chemicals have been found in the aquifer beneath the OLF, in private wells near the OLF, and in Coupeville's tap water. Prior to October 2017, the Navy had not even looked for these chemicals in public and private wells even though they had been found at the OLF.

PFHxS has often turned up at levels higher than PFOA and stays in the body longer than PFOA. EPA says it doesn't have enough information to set health guidance levels for PFHxS, but studies have linked it to childhood developmental problems.

It's fair to ask if the continued use of the Keystone well that draws from a contaminated aquifer is the best option, or simply the cheaper one for the Navy. Coupeville had planned to drill a new supply well in 2020 and considered ending its use of the contaminated Keystone well. The Town inquired about state funding "to acquire land and drill a new well and add transmission lines." Coupeville's Mayor had also asked Island County if it might sell the Town land for an easement and a new well.

The decision against drilling of a new well in an uncontaminated area has not been explained. It is clear that both the Town and the Navy wanted PFASs out of the

news. Both have withheld information from the public about the extent of the contamination--by use of detection and reporting limits that would allow PFASs to go undetected in water samples--and by withholding the results of testing that did find PFASs.

For example, Coupeville knew from its own testing that PFHxS, PFHxA, PFHpA were in the Town's water for almost a year before telling its water customers. The Mayor claimed that the Town's water was not "technically" contaminated, and she characterized legitimate expressions of concern about health impacts as "fear mongering."

Although praised for being transparent, the Navy still refuses to release the results of its October 2017 testing of Coupeville's water to the general public--even though Coupeville's water is used by public schools and the hospital. The expanded testing of October 2017 followed citizen complaints to the Secretary of the Navy alleging a flawed investigation that was failing to identify all the PFASs in the community's water.

The October 2017 results for the Fort Casey wells are preliminary and the PFAS amounts are low and estimated. Still, the unprotected Fort Casey wells and private wells are in the path of groundwater flow from the OLF where the highest levels of PFASs in central Whidbey's aquifer have been found. The test results point to a spreading plume of contamination larger than what has been represented.

A filter system may or may not be the best option, but filtering of Coupeville's water will do nothing to remove the PFASs in the aquifer that are migrating beyond the OLF's boundaries.

If there is cause to celebrate the Navy's decision, it should be when something is being done and not just planned. It should be when there is on-going monitoring for PFASs, including PFHxS, PFHxA, and PFHpA. It should be when people no longer have to wait to drink uncontaminated water.

Rick Abraham
January 30, 2018

Molly Hughes

From: Leibman, Kendra R CIV NAVFAC NW, EV32 <kendra.leibman@navy.mil>
Sent: Wednesday, January 31, 2018 12:49 PM
To: Molly Hughes
Cc: Joe Grogan
Subject: FOUO- Coupeville Impacted Parcels
Attachments: FOUO Coupeville Impacted Parcels.pdf

Hi Molly,

Attached is a map showing the impacted parcels.

The names and addresses are shown below.

Cliff & Kristine Fellrath 15148 State Route 20
James Heidinger 310 Big Cedar Lane
Keith & Jan Hovland 15207 State Route 20
Gary & Jane Johnsen 15218 State Route 20
Mark & Kristi Korzan 294 Big Cedar Lane
Mike & Pat Millenbach 1023 Keystone Hill Rd
Steve & Sandra Swanson 15203 State Route 20
Oscar Bececca (home owner) shares well w/Johnsen
David & Melanie Hovland shares well w/Swansons
Andrew & Jennifer Crawford 258 Big Cedar Lane

I look forward to meeting with you on Friday.

Kendra

Kendra Leibman, P.E.
Remedial Project Manager

NAVFAC NW
1101 Tautog Circle, Suite 203
Silverdale, WA 98315-1101

(O) 360-396-0022
(C) 509-999-6843
(F) 360-396-0857
kendra.leibman@navy.mil

Coupeville Water Project Planning

PROJECT: Coupeville-Navy Water Improvements/695610.08.CE.GN
MEETING TIME: February 2, 2018, 10:00 AM
LOCATION: Island County Courthouse – Law and Justice Building, 101 NE 6th Street, Room 131, Coupeville, WA 98239

Objective

Discuss and document consensus on project requirements and approach.

Agenda Items

- 1. Introductions, Meeting Agenda Overview, Other Discussion Items**
- 2. Health and Safety Moment**
- 3. Meeting Specific Agenda Items**
 - a. Background
 - In-Town Wells – salt water intrusion and manganese issues
 - Fort Casey Wells and Water Treatment Plant – aeration/oxidation, manganese dioxide filtration/adsorption, and disinfection address iron, manganese, and hydrogen sulfide issues
 - Fort Casey Keystone Well 1-08 – PFAS detected at concentrations just below USEPA 70 ppt Health Advisory level
 - Private Residential Well Supplies adjacent to Fort Casey Wellfield – PFAS detected at concentrations above USEPA Health Advisory levels
 - b. Project Needs and Approach
 - Additional Treatment – Add processes to Fort Casey Water Treatment Plant to remove/reduce PFAS in water supply
 - Extend Water System – Extend piping and make other improvements needed to provide water utility service to affected private residences
 - c. Alternative Assessment Requirements
 - Potentially Viable Technologies – granular activated carbon (GAC) adsorption/filtration, ion exchange (IX) resins, nano/RO membranes
 - Considerations – treatment performance and future regulations, waste handling/disposal, operational complexity, piloting requirements, implementation schedule, cost/benefit
 - Pilot Testing – GAC rapid small scale column tests (RSSCT), onsite pilot, full scale pilot
 - d. Project Schedule Priorities and Streamlining Opportunities
 - e. Project Approach Consensus and Issues
- 4. Action Items and Follow-up Activities**

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2. Health and Safety Moment

3. Meeting Specific Agenda Items

a. Background

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b. Project Needs and Approach

- Additional Treatment – Add processes to Fort Casey Water Treatment Plant to remove/reduce PFAS in water supply
- Extend Water System – Extend piping and make other improvements needed to provide water utility service to affected private residences

c. Alternative Assessment Requirements

- Potentially Viable Technologies – granular activated carbon (GAC) adsorption/filtration, ion exchange (IX) resins, nano/RO membranes
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d. Project Schedule Priorities and Streamlining Opportunities

e. Project Approach Consensus and Issues

4. Action Items and Follow-up Activities



DEPARTMENT OF THE NAVY
NAVY REGION NORTHWEST
1100 HUNLEY ROAD
SILVERDALE, WA 98315-1100

5090
Ser N45/0925
November 28, 2017

The Honorable Molly Hughes
Mayor of Coupeville
PO Box 725
4 NE Seventh Street
Coupeville, WA 98239

Dear Mayor Hughes:

Thank you for your continued support as we work to address per- and polyfluoroalkyl substances (PFAS) in drinking and groundwater on and near Naval Air Station Whidbey Island Outlying Landing Field (OLF) in Coupeville, Washington. As you are aware, the Navy has identified eight drinking water wells (ten residences) near OLF Coupeville that exceed the U.S. Environmental Protection Agency's lifetime health advisory limit for perfluorooctane sulfonate and perfluorooctanoic acid (PFOA). The Navy will continue to provide bottled water to affected residents as an interim solution, while we evaluate long-term solutions.

I am pleased to inform you that we have been authorized to add pretreatment to Coupeville's water distribution system as a means to address PFAS in drinking water and protect public health. My technical team continues to evaluate this option and will be in contact with you shortly to discuss the details.

My technical team also continues to evaluate your concerns regarding another solution that connects impacted residences to the Coupeville water distribution system. Specifically, your concern of the long-term sustainability of Coupeville's water supply due to the PFOA concentration in your primary source well - Well 108.

If you have questions or concerns, please contact Captain Geoffrey Moore, Commanding Officer, Naval Air Station Whidbey Island at (360) 257-2037 or by e-mail at geoffrey.moore@navy.mil.

Sincerely,

G. A. MAYES
Rear Admiral, U.S. Navy
Commander, Navy Region Northwest

39. .010
Section 4

Legal questions – what are the next steps?

Our Town attorney feels it would be a good idea to write a Letter of Understanding between the Town and the Navy that spells out some of the key points of what will be happening in the next year. Nothing too formal or detailed at this point. I would like to take this step so I have more formal approval from my Council to continue negotiating and making commitments on the Town's behalf.

We think this letter or memorandum of understanding would be separate from a maintenance and operation agreement that will be needed closer to the end of the construction stage.

If you think it would be a good idea to get our attorneys in the same room to talk about this, or any other matter involved with this huge undertaking, our attorney, Grant Weed, could be available to meet in Coupeville on February 12, 13 or 15.

Key Points

- The Navy, will be designing and constructing a filter system for the Town of Coupeville's water treatment plant to treat for PFOA and PFOS.
- The Navy, will be designing and constructing new service lines and private lines to connect the owners of eight private wells (10 homes?) to the Town of Coupeville's water system.
- The Navy will design a water filter system that may be adapted or changed if federal or state regulations change regarding PFAS. Any future adaptations required by federal or state regulations will be at the expense of the Navy.
- The Navy agrees to consult with the Town of Coupeville's Utility Superintendent, Public Works Superintendent and the Town Engineer on these projects.
- The Navy will be the lead agency for all environmental review for both projects.
- The Navy will be the lead agency for all necessary permits for both projects.
- The Navy will be responsible for conducting any pilot studies that may be required.
- The Navy will be responsible for obtaining all necessary approvals from the Department of Health and Island County for both projects.
- The Navy or its contractor will reimburse the Town of Coupeville for any out of pocket expenses incurred for both projects.

covered by
CIRCA
Federal
exemption
NEPA
SEPA - no
section 106 -

< DOD
Navy - not public works project

separate
O&M grant
later.

Timeline used as exhibit for steps
Navy is taking

Bilateral - both parties

Unilateral - Navy only

agree to
CTA utility
code -
town standard
county, state

Other considerations/questions from our Town Attorney

Coupeville Town Code 13.08.050 requires the Town Council to approve the method of payment for any extension of the water line outside of the Town limits.

What will the Navy do if the levels of contaminants cannot be effectively treated now or in the future?

What will the Navy do when these improvements to the Town's capital improvements wear out or need replacement? What is the long term plan?

If any of the properties served by private, contaminated wells can be subdivided, will the Navy pay for new connections?

What will be the long term plan for testing and monitoring the Town's water and the migrations of the plumes?

Will the Navy's financial commitments be conditioned on annual budget appropriations? How long can the M & O agreement run, more than one or two budget years?

Will the Navy agree to indemnify the Town from claims made by customers and/or regulatory agencies resulting from contaminants?

Will the Navy agree to comply with Coupeville Town Code 13.08.160 requiring the installation of new water mains, services and meter settings will be in accordance with Town standards for construction?

****For official use only (FOUO) - please do not forward****

Meeting Agenda

PREPARED BY: Kendra Leibman
MEETING DATE: February 12, 2018
MEETING TIME: 1-2 pm
LOCATION: Teleconference (1-877-939-1153; Access code: 9774245)
PARTICIPANTS: Town of Coupeville Mayor Molly Hughes
Town's Attorney, Mr. Grant Weed
Navy's Lead Attorney, Ms. Mary McKnight - *real estate*
Navy's Environmental Attorney, Mr. Tom Puckett
Navy's Environmental Restoration Program (ERP) Manager, Ms. Dina Ginn
Navy's ERP Supervisor, Mr. Chris Generous
Navy's Remedial Project Manager, Ms. Kendra Leibman

Objectives

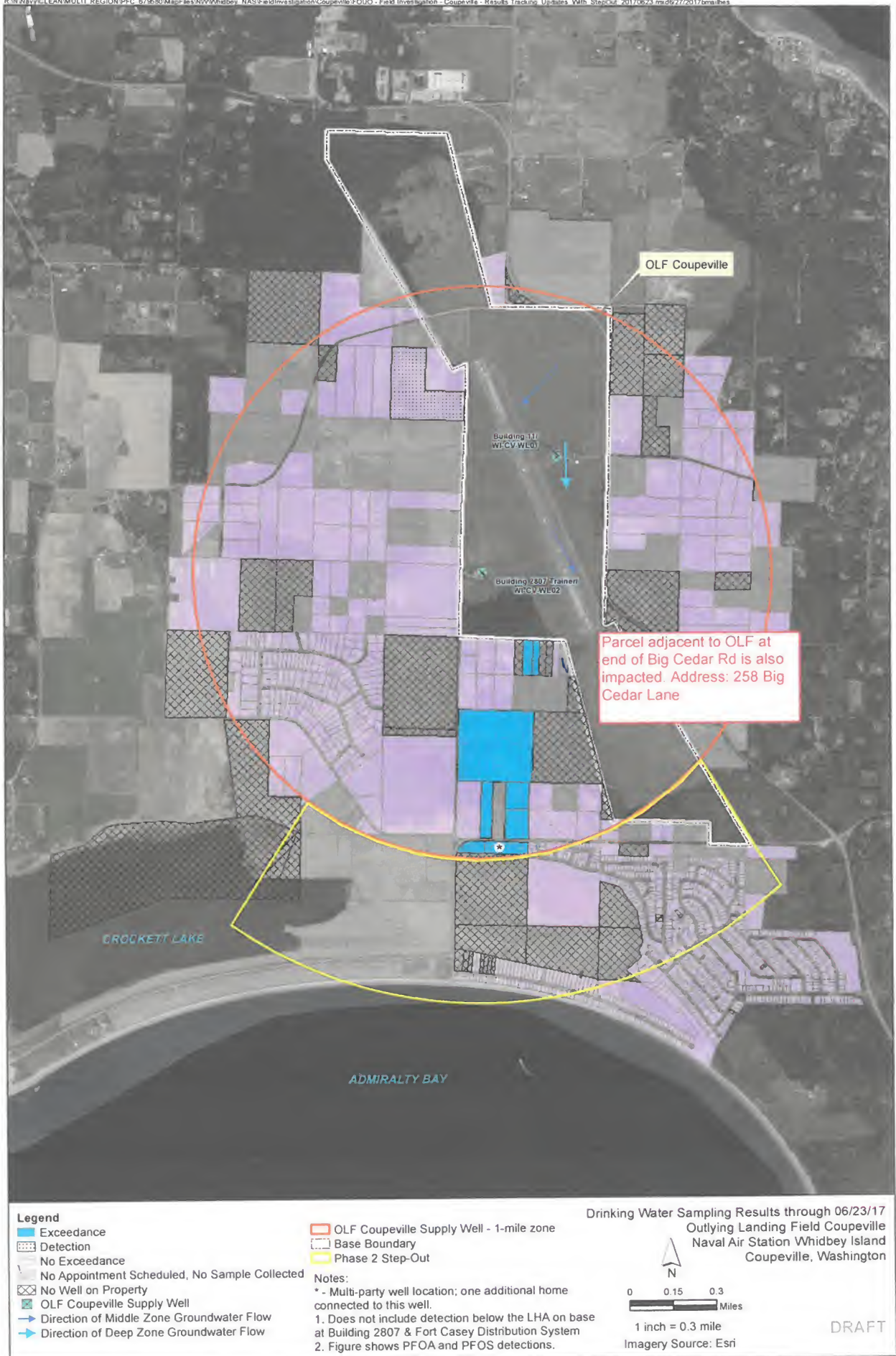
There are three objectives for this meeting.

- Discuss and agree upon path forward for information dissemination (e.g. primarily email) between the Town, Navy, and Navy's contractor, CH2M, regarding the long-term solution to PFAS in drinking water for the Town of Coupeville.
- Discuss and agree upon the appropriate document (e.g., letter) that summarizes the Navy's intent to add treatment to the Town's drinking water treatment plant and connect 10 impacted homes to the Town's water system.
- Discuss and agree upon the short-term plan to pay the Town for incidental costs associated with permits and real estate agreements and long-term plan to pay the Town for operation and maintenance of new PFAS treatment.

Agenda Items

- 1) Information dissemination (examples of information below)
 - Design information (water distribution lines and treatment plant)
 - Construction information (water distribution lines and treatment plant)
 - Residents name and addresses with PFAS exceedances (those that will need to be connected to the Town's water system)
 - Real estate documents (Town's Franchise agreements with Island County and Washington Department of Transportation)
 - Permits
- 2) Letter of Intent
- 3) Short-term and long-term costs
 - Permits and real estate agreement costs
 - Operation and maintenance costs
 - Cooperative Agreement (renewed every 2years)
- 4) Other items

R:\NW\Nav\CLEAN\MULTI_REGION\PPG_679680\MapFiles\NW\Whidbey_NAS\FeldInvestigation\Coupeville\FOUO - Field Investigation - Coupeville - Results Tracking - Up-ides With Step-Out_20170623.mxd/20170623

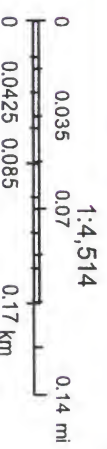


Island County Parcel Viewer Map



2/14/2018, 10:03:40 AM

- Road Closures
- One Way Directions
- Plat
- Tideland Only Parcels
- No Adjacent Land
- Roads
- City Limits
- Quarter Sections
- Collector and Arterial
- Local
- Private
- Condo
- Parcels
- Highway



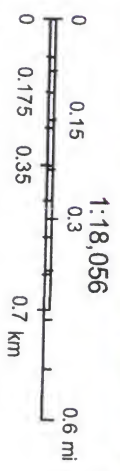
Island County
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

Island County Parcel Viewer Map



3/1/2018, 10:25:06 AM

- Road Closures
- One Way Directions
- Plat
- Tideland Only Parcels
- No Adjacent Land
- Roads
- City Limits
- Quarter Sections
- Collector and Arterial
- Local
- Private
- Condo
- Parcels
- Highway



1:18,056

Island County
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

Meeting Agenda

Date: March 26, 2018

Location: Island County Administrative Building, 1 NE 7th Street, Room 116, Coupeville, WA 98239

Subject: Town of Coupeville Long-Term Solution: Access Agreement for Big Cedar Lane, Fire Flow Requirements, and Treatment Analysis/GAC Planning Elements

Participants: Town of Coupeville (Mayor Molly Hughes, Joe Grogan, Kelly Riepma, Kim Hinds), Island County Public Health (Jill Wood, Keith Higman), US Navy (Dina Ginn & Kendra Leibman), CH2M/Jacobs (Rebecca Maco, Matt Maring, Jennifer Madsen)

- ~~1)~~ Fire flow requirements:
 - Hydraulic modeling analysis approach and results
 - • Minimum system improvements required for domestic service
 - Additional system improvements required for fire flow delivery
 - • Additional fire flow supply for reliability/redundancy (necessary?)
- ~~2)~~ Big Cedar Lane access agreement:
 - Easement/right-of-way with private property owners
 - Water main routing, construction, and maintenance requirements
 - Water main termination requirements
- 3) Treatment analysis and GAC planning:
 - ✓ Alternatives analysis update – anticipated performance and options, piloting and operations complexity, waste stream management, process flexibility, lifecycle costs and cost/benefit
 - ✓ Pilot test- Rapid Small Scale Column Test approaches
 - ✓ Equipment procurement
 - Project predesign report update
 - Site investigations – survey and utility locates, geotech, wetlands, historic/cultural
 - Detailed design development
 - WTP process siting options
 - • Permit requirements

Don Exbury

Molly Hughes

From: Leibman, Kendra R CIV NAVFAC NW, EV32 <kendra.leibman@navy.mil>
Sent: Tuesday, March 27, 2018 12:57 PM
To: Jill Wood; 'Keith Higman'; Molly Hughes; Kelly Riepma; Kim Hinds; Joe Grogan; Ginn, Dina R CIV NAVFAC NW, EV3; Generous, Christopher CIV NAVFAC NW, EV32; 'Maco, Rebecca/SEA'; Maring, Matt/SEA
Cc: Madsen, Jennifer/SEA
Subject: RE: Town of Coupeville Long-Term Solution: Access Agreement for Big Cedar Lane & Fire Flow Requirements

Good afternoon,

Thank you for attending the meeting yesterday. It was very helpful and we made good progress.

Below are the action items I captured from our meeting. Please review and let me know if I missed anything.

- 1) Navy action: Contact Derek Pell at DOH to check on requirement for fire flow redundancy at the time of construction or if it can be deferred to later.
- 2) Navy action: Contact Central Whidbey Island FD to check in a turnaround is required for fire response on Big Cedar Lane
- 3) Navy action: Check with Navy Real Estate Office and Legal Counsel about what documentation is required for Ch2M to conduct geotech, construction and other work on private parcels for connections to water main.
- 4) Navy action: Contact Jennifer Meyers (Navy Community Planner Liaison Officer) about how to build structures outside the development envelope for the Town's treatment plant improvements
- 5) Town action: Provide the Navy the requirements for water main maintenance on Big Cedar (width of road and turnaround radius, other requirements as necessary)

Note that the following must be complete before Ch2M can start obtaining easements for the Town on Big Cedar Lane. These items are dependent on completing the actions above.

- 1) Navy provide the Town with a letter detailing the work we plan to conduct for the long-term solution (in-progress) - need information from #1, 2, 3, and 5 to complete
- 2) Navy provide revised scope to include access agreements procurement and Navy approves concurrence letter from CH2M including the addition of access agreements to their scope (in-progress) - need information from #3 and 5 to complete

Thank you,
Kendra

-----Original Appointment-----

From: Leibman, Kendra R CIV NAVFAC NW, EV32
Sent: Wednesday, February 28, 2018 5:55 PM
To: Leibman, Kendra R CIV NAVFAC NW, EV32; Jill Wood; 'Keith Higman'; 'Molly Hughes'; 'Kelly Riepma'; 'Kim Hinds'; 'Joe Grogan'; Ginn, Dina R CIV NAVFAC NW, EV3; Generous, Christopher CIV NAVFAC NW, EV32; 'Maco, Rebecca/SEA'; Maring, Matt/SEA
Cc: Madsen, Jennifer/SEA
Subject: Town of Coupeville Long-Term Solution: Access Agreement for Big Cedar Lane & Fire Flow Requirements
When: Monday, March 26, 2018 13:00-15:00 (UTC-08:00) Pacific Time (US & Canada).
Where: Island County Administrative Building, 1 NE 7th Street, Room 116, Coupeville, WA 98239

Molly Hughes

From: Kelly Beech
Sent: Friday, February 02, 2018 11:30 AM
To: Molly Hughes
Subject: Out-of-Town Average Bill
Attachments: Consumption Activity.xlsx

The average Out-of-Town residential customer uses 1,170 cubic feet of water per billing cycle (2 months).

The bill for that kind of consumption, on an Out-of-Town residential connection is:

Base Rate per month: \$20.00

Consumption October-May (.0412/cu. Ft.): $4 \times 1170 \times .0412 = \192.81

Consumption June – September (.0618/cu. Ft.) $2 \times 1170 \times .0618 = \144.61

Annual average cost of an Out-of-Town residential connection: $\$240 + \$192.81 + \$144.61 = \577.42

Although I feel I should add that a family of four, who have a well for irrigation, had annual consumption of 12,065. Which is nearly twice as much as the total Out-of-Town residential average.

Without having any idea of how much a household's annual consumption actually is, it is very hard to estimate their potential bills.

Kelly

Kelly Beech, Clerk-Treasurer
Town of Coupeville
4 NE 7th Street
PO Box 725
Coupeville, WA 98239
360-678-4461 ext. 7
360-678-3299 (fax)
clerktreasurer@townofcoupeville.org
www.townofcoupeville.org

WA state
average per billing cycle
240 +

$$4 \times 200 \times .0412 = 329.60$$

$$2 \times 200 \times .0618 = 247.20$$

\$ 816.80

~~Mark Strand
President~~
360
222-3151

Thorn - 4

Yount - 2

Fredrickson - 2

Address	Account Name	Period	Fiscal
Cathedral, S 772	1468.1 Thie, Bonnie	130	1,005
Twin Lagoon 2086	1230.0 Scott, Cheryl	133	1,347
Cpt Whd Inn Rd, W 2043	1078.0 Austin, Dorothy	140	1,519
FT Casey, S 219	1398.0 Cobb, Carolyn	146	2,521
Cpt Whd Inn 2034	1213.0 Vader, Dr. Tom	146	4,502
FT Casey, S 259	2329.0 Schioler, Thomas	164	1,149
Madrona 1986	1787.0 Abendroth, Robert D.	170	2,085
Indian Hill 689	2274.0 Atwood, Joseph	172	5,277
Twin Lagoon 2076	1730.0 Salazar, Lee & Karen	173	2,532
Fort Casey Rd, S 323	1089.0 Moon, John A.	174	4,968
Tw n Lgn LN 2065	1409.0 Hosford, Shelby & Grant	186	1,517
Madrona 2078	2800.0 Greer, John & Pamela	193	6,434
Madrona, W 2210	1290.0 Shelton, John	210	1,599
Madrona 2185	2339.0 Savina, Maryann	210	2,341
Ebey, S 82	1699.0 Sherman, Vincent	235	1,696
Fort Casey Rd, S 279	1040.0 Weir, Vivian	236	1,511
Cathedral, S 676	2125.1 Moore, Loyd	253	2,066
Henry Loop 1053	2790.1 McCormick Jr., Richard	263	1,685
Madrona 1919	1204.0 McCoy, Angelo	279	1,692
FT Casey, S 224	1436.0 Soderquist, Erroll	279	3,029
Indian Hill 678	1456.0 Larsen, Joseph & Anne	280	5,380
Madrona 2054	1541.0 Hendrickson, Melinda	284	1,482
FT Casey, S 267	2538.0 Ness, Dez	291	2,492
Madrona 1998	1558.0 Krieger, Tim & Melanie	293	1,783
Madrona 2084	1103.0 Tossey, Melvin D.	295	1,726
Good Beach 1940	2334.0 Wilson, Elizabeth C.	303	2,354
Madrona 2123	1866.0 Hughes, Larry	319	1,975
Wellswood 1646	1587.0 Dutcher, Alan & Lorae	339	8,852
Madrona Way 2110	1032.1 Slichter, Sherrill	343	2,042
Madrona Way 2108	1032.0 Slichter, Sherrill	344	1,015
Madrona Way 2229	2615.0 Sell, Margaret McNichol & Sue	346	3,396
Engle, S 697	1700.0 Moore, Susan P	358	2,629
Madrona 2172	1138.0 Shelton, Julie	377	1,183
Cathedral, S 764	2302.0 Weinstein, Cary	384	2,881
Covey Run 1748	1614.0 Callahan, John & Dorte	384	8,995
Engle, S 723	1959.0 Smith, Keith	386	2,090
Wellswood 1668	1201.0 Merwine, Charles & Glenda	389	4,111
Madrona 1647	2671.0 Zuckerman, Anne	393	5,868
Mistywood Dr, N 283	1796.0 Carlson, Ed	395	2,675
Madrona 1691	1110.0 Lang, Brent & Julie	395	4,303
Crown, N 323	1956.0 Williams, Thomas & Connie	399	2,173

✓ 334
240
\$94 for water
for year

Madrona 2100	1562.0 Hart, Kenneth	401	2,932
Black, W 1476	2480.0 Haga, Kevin	405	2,750
TwN Lgn LN 2097	1449.0 Stone, John	406	9,913
Carriage, N 91	2512.0 Talavera, Dominic	426	3,168
Madrona 2107	1682.0 Mueller, Lauren	437	2,565
Ebey, S 140	1258.0 Baxter, Kathy	441	3,636
Engle, S 405	2000.0 Arends, Kim	450	3,102
Rosewood, N 321	1703.0 Shergalis, Philip	452	4,171
Parker, NW 621	1219.1 Marti, Rick	463	3,152
Madrona 2046	1829.0 Marter, Suzanne	481	3,710
Indian Hill 695	2176.0 Rockafellar, Michael	481	4,357
Cpt Whd Inn 2039	1277.0 Gubner, Dr. Richard	482	3,632
Madrona Way 1731	2517.0 Johnson, Jennifer & Steven	488	3,889
Sherman N 106C	1418.0 Penn Cove Shellfish, LLC	500	2,178
Cathedral, S 680	2838.0 Schlagel, Peter	503	1,789
Good Beach Ln 1924	1006.0 Thompson, Garry & Maureen	508	5,726
FT Casey, S 217	2792.0 Luginbill, Kiersten Ann	519	4,121
Cathedral, S 760	1384.0 Johanson, John	520	3,735
Madrona 1893	1756.0 Toeppen, Lou	521	3,864
SR 20 23994	1369.0 Kitch, Elaine	534	3,412
Madrona Way 1785	1120.0 Golgart, Stuart	557	4,029
Burchell 1066	1292.0 Hicks, Lidabeth	579	2,202
Madrona 1875	1496.0 Lester, Debra	580	3,266
Marine DR 443	2787.0 Green, Gareth <i>Bighouse</i>	581	6,114
FT Casey, S 187	1586.0 Bur, Gerald	593	4,611
Edgefield Ln 805	2677.0 Nance, Darrell	593	5,470
Terry, W 1203	1134.0 Iverson, M.	594	3,391 <i>Bowling Alley</i>
SR 20 22289	1246.0 James, Lee	596	2,541
Engle, S 781	2010.0 Brown, Cathy	608	4,088
Cathedral, S 706	1702.0 Viertel, William	614	4,045
Ebey, S 163	1211.0 Mickunas, Larry	618	3,573
Madrona 2031	1402.0 Squire, Carol	621	7,017
Cpt Whd Inn 2054	1672.0 Iwerks, Loren D.	634	4,424
Rosewood Ct 315	2525.0 Barville, David & Rebecca	663	5,199
Madrona 1715	1389.0 Kelley, Patrick & Cindy	671	4,156
Black, W 1526	2802.0 Matthews, Lafonya	672	2,617
Madrona 2066	2854.0 Faber, Justus	675	1,376
Madrona 1773	1184.0 Vier, Karla	676	5,753
Engle, S 395	2309.0 Hancock, Alan & Elizabeth	677	4,621
Madrona Way 1673	1042.0 Sahli, Tom & Leanne	702	5,877
Madrona 1735	1532.0 Bender, Kenneth & Suzi	720	5,304
Madrona Way 2082	1076.0 Kempbell, Phillip R.	723	4,794

TwN Lgn LN 2092	1620.1 Wyatt, Fred & Jacki	1,368	9,817
Ebey, S 154	2724.0 Sherman, Brad & Abbey	1,446	9,127
Engle, S 538	1202.0 Einterz, Fran	1,454	13,972 <i>Jesse Faum</i>
FT Casey, S 207	2008.0 Cross, Jeff & Della	1,458	6,797
Madrona 2126	2687.0 Boyle, James & Frances C. Bainor-Boyle	1,518	8,010
Hill, W 1520	1718.0 Bishop, Wilbur	1,520	10,223
Rosewood, N 305	1484.0 Schwartz, Matthew	1,535	7,707
Carriage, N 71	1423.0 Quinn, Shelby	1,544	12,607
Vine, N 121	2104.0 McGregor, Denise	1,634	13,321
Carriage, N 92	2033.0 Anderson, Harold	1,640	8,500
FT Casey, S 302	2576.0 Rutecki, Betty	1,659	10,205
Madrona 2039	1636.1 McDonald, Tim	1,717	12,338
Cathedral, S 688	1492.0 Sivertsen, Greg & Kathy	1,725	9,970
Terry Rd, W 1167	1069.0 Thorn, Blake	1,768	12,065
Ebey, S 172	1408.0 Sherman, Dale	1,815	10,168
Ebey, S 209	1632.0 Vincent-Jones, David	1,833	7,151
FT Casey, S 205	2618.0 Howard, Nathan & Erin	1,849	11,005
Madrona 1988	1721.0 Garthwaite, Carolyn	1,978	7,499
FT Casey, S 209	1102.0 Compass Health	1,984	13,963 ?
Madrona 2111	1430.0 Mueller, Louise E	2,217	18,827
Indian Hill 685	1225.0 Nash, Robert W & Amy <i>Byhouse</i>	2,352	17,715
FT Casey, S 186	1482.0 Beech, Michael & Kelly	2,379	13,354
Cathedral, S 750	1329.0 Sherhill Vista Farms	2,450	28,563 ?
Indian Hill 647	2481.0 Jackson, Keith & Carolyn	2,534	10,769
Cathedral, S 732	2575.0 McGarry, Michael	2,551	17,307
Terry, W 1112	1745.0 Engle, Len & Terri	2,739	19,024 -
FT Casey, S 315	1420.0 Charleton, Charles	2,769	22,156 ?
Cpt Whd Inn 2037	2138.0 Dausey, Michael & Cindy	2,906	18,362 ?
- Madrona 2136	1619.0 McGinnis, Chris <i>2007</i>	3,676	22,526 ?
Terry, W 1153	2672.0 Meyers, Pat	4,838	16,972
Indian Hill 670	1893.0 Stahura Family Revocable Trust <i>Byhouse</i>	12,387	55,788 ?
- Madrona 2177	? 2589.0 Turner, Ian & Malia	24,998	28,605 ?
		1,170	7,023

2171 Madrona Julie Shelton Alaska
2166 Madrona Lewis Shelton - mailing
2166 Kennedy Logans phys side

Over with \$1069

Madison
Shelton 207 A&B - Byhouse

Sea Holly 61	1710.0 Owner, Roger & Sue	739	6,154
Cathedral Dr, S 740	1022.0 Barbieri, Mark	745	4,458
Ebey, S 89	1143.1 Engle, David	759	5,050
Madrona 1700	2024.0 Evans, Brian	774	8,806
Sherman, N 103	1692.0 Lidral, Leona	783	7,491
Engle, S 315	1963.0 Purdue, Wilbur Roger	784	12,756 <i>farm?</i>
Madrona 2225	2166.0 Heller, Stephen & Marilyn	790	5,318
Engle, S 895	2013.0 McClain, Jeffrey	819	4,471
Windancer 1630	1176.0 Rojas, Manny & Janet	820	6,719
Parker, NW 623	1581.0 Piper, Nate & Deborah	825	5,745
Tw n Lgn LN 2058	2175.0 AJP, Inc.	833	4,813
Engle, S 655	2631.0 Kyle, Margaret	867	8,025
Cathedral, S 716	1393.0 Nordberg, Gerald & Linda	870	11,708 <i>!</i>
Henry Loop 1045	1565.0 Lewis, Wayne	875	5,819
Kennedy Lagoon Ct 2230	2816.0 An leVernon, Christi	878	3,590
Wellswood 1624	1966.0 Wells, Brianna	879	8,753
FT Casey, S 280	1396.0 Salmon, Nancy	886	6,787
Indian Hill 635	2684.0 Swanson, Lena & Reed	887	5,556
Engle, S 797	1093.0 Bradley, Connie	920	7,885
Sherman, N 97	1588.0 Lamb, Russel & Laurie	929	4,871
Wind Dancer 1646	1856.0 Bachmann, Charles	931	7,565
Sherman Rd 165	1375.0 Sell, John & Patricia	933	5,148
Burchell Rd 1075	1017.0 Pickard, Jan	942	14,307 <i>!</i>
FT Casey, S 202	1560.0 Yount, Ronald	947	6,696
Ebey, S 26	2770.0 Kempton, Jake & Ellisha	973	9,973
Henry Loop 1067	1174.0 McCormick Sr. , Richard	974	6,406
Good Beach 1966	1499.0 Richards, Larry	983	14,192
Madrona 1871	2177.0 Thayer, Thomas	1,008	8,856
Madrona 1759	2378.0 Sherman, James L.	1,031	6,392
Cathedral, S 730	2660.0 Burchard, John & Margaret	1,034	7,365
Madrona 1849	1234.0 Garrison, Lynn	1,039	10,207
Parker Rd, W 503	1058.0 Tamura, Richard	1,063	16,703
Terry, W 1040	1853.0 Boling, John J.	1,079	9,047
Madrona 2166	1547.0 Walker, Lewis J	1,143	6,745
Sea Holly Ln 66	2765.0 Schroeder, Regina	1,161	7,920
Crown, N 324	1356.0 Johnson, Robert W	1,176	7,262
Sherman Rd, N 109	1100.0 Homan, Rodney	1,192	9,431
Wind Dancer 1654	1818.0 Scoble, Richard	1,205	9,829
Rosewood, N 318	2676.0 Kelly, Matthew & Amanda	1,248	7,715
Engle Rd, S 937	1046.0 Stelle, William	1,251	5,941
Terry, W 987	2330.0 Dehaven, Steven	1,310	7,359
FT Casey, S 281	1302.0 Skubi, William & Jan	1,325	8,178



**Washington State
Department of Transportation**

Application for Utility Permit or Franchise

Permit/Franchise No. _____

Applicant - Please print or type all information

Application is Hereby Made For:

- ☐ Permit
☒ Franchise ☐ Amendment
☐ Franchise Renewal \$250.00
☐ Franchise Consolidation \$300.00

- ☒ Category 1 \$500.00
☐ Category 2 \$300.00
☐ Category 3 \$150.00

Intended Use of State Right of Way is to Construct, Operate, and Maintain a:

Water service line

on a portion of

State Route 20 (at/from) Mile Post 15 to Mile Post 15.25 in Island County,
to begin in the NW Section 13 Township 31 North: Range 1 West/East W.M.
and end in the NW Section 13 Township 31 North: Range 1 West/East W.M.

Fees in the amount of \$500.00 are paid to cover the basic administrative expenses incident to the processing of this application according to WAC 468-34 and RCW 47.44 and amendments thereto. The applicant promises to pay any additional costs incurred by the Washington State Department of Transportation (Department) on the behalf of the applicant.

Check or Money Orders are to made payable to "Washington State Department of Transportation"

Applicant (Referred to as Utility)

Town of Coupeville

Address

PO Box 725 WA 98239

City State Zip Code

Coupeville

Telephone

360-678-4461 Ex. 2

Email

mayor@townofcoupeville.org

Applicant Reference (WO) Number

Applicant Authorized Signature

Molly Hughes

Print or Type Name

Mayor

Title

Dated this 13th day of March, 2018

91-6001418

Federal Tax ID or Social Security

Authorization to Occupy Only if Approved Below

The Department hereby grants this Permit or Franchise, as applicable, subject to the terms and conditions stated in the General Provisions, and Exhibits attached hereto and by this reference made a part hereof.

For Department Use Only

Exhibits Attached

Department Accounting Reference Number

In accepting this Franchise Amendment No. _____ to Franchise No. _____, Utility agrees that the General Provisions to the original Franchise and any previous Amendments shall be replaced in their entirety with the General Provisions as included with this Amendment. All other terms and conditions shall remain in full force and effect.

General Provisions

This Permit or Franchise is issued pursuant to the terms of RCW 47.32, RCW 47.44, and WAC 468-34, and amendments thereto. Renewal of a Franchise must be by application prior to expiration of this Franchise as required by RCW 47.44.020(3).

1. A copy of this Permit or Franchise must be on the job site, protected from the elements, at all times during any construction authorized by this Permit or Franchise.
2. The Utility agrees to pay the reasonable costs for investigating, handling, and granting the Permit or Franchise, including, but not limited to basic overhead charges and for providing an inspector during construction and/or maintenance of the Utility's facilities. Further, the Utility agrees that it shall be responsible for and pay the Department's expended direct and indirect costs associated with applicable provisions of the Permit or Franchise. The Department will assign a reimbursable account to the Utility as a means of invoicing the Utility for the costs associated with this Permit or Franchise.
 - (a) The Department will assign a reimbursable account to the Utility as a means of invoicing the Utility for the costs associated with this Permit or Franchise.
 - (b) The Department will invoice the Utility and the Utility agrees to pay the Department within thirty (30) calendar days of receipt of an invoice.
3. Upon approval of this Permit or Franchise, the Utility shall diligently proceed with the Work and comply with all General and Special provisions herein. Construction of facilities proposed under this Permit or Franchise shall begin within one (1) year and must be completed within three (3) years from date of Department approval. "Work" under this Permit or Franchise shall mean construction, operation, and maintenance of the Utility's facilities as authorized herein.
4. The Utility shall notify the Department representative in special provision 1 of the name, address, and telephone number of its contractor when Work outlined herein is going to be performed with other than its own forces. When the Utility uses a contractor, an authorized representative of the Utility shall be present at all times unless otherwise agreed to by the Department representative. A list of authorized representatives shall be submitted prior to the construction start date. (Authorized representatives are defined as persons having signatory authority for the Utility and or the authority to control the Work as needed for any issues identified by the Department.)
5. The Utility agrees to schedule and perform its Work in such a manner as not to delay the Department's contractor's work when the Department has a contractor performing work in the vicinity of the Utility's Work.
6. All contact between the Department and the Utility's contractor shall be through the Utility representative. Where the Utility chooses to perform the Work with its own forces, it may elect to appoint one of its own employees engaged in the Work as its representative. The Utility, at its own expense, shall adequately police and supervise all Work performed by itself, its contractor, subcontractor, agent, and/or others, so as not to endanger or injure any person or property.
7. The Utility shall contact the identified Department representative two (2) weeks prior to conducting Work, to determine the location of survey control monuments within the area in which the Utility will be working. In the event any monument or right of way marker will be altered, damaged, or destroyed by the Utility, the Department, prior to Utility Work, will reference or reset the monument or right of way marker. During the Work, upon discovery of a monument or right of way marker, the Utility shall cease Work in that area and immediately notify the Department of the discovery. The Department will coordinate with the Utility to ensure that the monument or right of way marker is recorded or replaced. The Utility agrees to pay all Department costs to perform monument or right of way marker work, as provided in this provision, in accordance with general provision 2.
8. In the event any milepost, fence, or guardrail is located within the limits of the Utility's Work and will be disturbed during Utility Work, the Utility agrees to carefully remove these highway facilities prior to Utility Work and reset or replace these highway facilities after the Utility Work, to the Department's sole satisfaction and at the sole cost of the Utility. The Utility agrees that all highway signs and traffic control devices shall not be removed or disturbed during Utility Work.
9. The Utility agrees that all Work shall be done to the satisfaction of the Department. All material and workmanship shall conform to the Department's Standard Specifications for Road, Bridge, and Municipal Construction, current edition, and amendments thereto, and shall be subject to Department inspection.

5726
Ser N46/
XXXX

NAME
STREET ADDRESS
CITY STATE ZIP



Dear XX:

SUBJECT: LONG-TERM DRINKING WATER PROTECTION ACTIONS FOR TOWN OF
COUPEVILLE

I am writing to you regarding the U.S. Navy's drinking water investigation near Naval Air Station Whidbey Island's Outlying Landing Field Coupeville for per- and polyfluoroalkyl substances (PFAS), specifically perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). The Navy's decision on a long-term solution addresses both private drinking water wells with exceedances above the Environmental Protection Agency (EPA) Lifetime Health Advisory (LHA), as confirmed by the Navy, and protection of the Town of Coupeville's drinking water from potential impacts of PFOS/PFOA. The Navy will design and install a PFAS treatment system to ensure the Town's drinking water remains below the LHA and extend the drinking water distribution system to affected residents. The Navy appreciates your support in executing this solution and is providing this letter to clarify the Navy's intentions. The action will include ~~two-three~~ parts: 1) design and 2) construct the PFAS treatment system and extension of water distribution lines ~~and installation of the treatment system and extension of water distribution lines~~; and ~~23) the operation and maintenance (O&M) of the PFAS treatment system facility until an Environmental Services Cooperative Agreement (ESCA) is in place.~~ Each of these steps will be taken at the Navy's sole expense.

The design and construction of the treatment system will be conducted by the Navy and Navy contractors in coordination with you and the Town of Coupeville Utilities and Public Works Department. The work will include the following:

- Design and construct a treatment system for the Town of Coupeville's drinking water system to ensure PFOS and/or PFOA remain below the LHA. The design will include adaption alternatives to address future applicable federal or state PFAS drinking water regulations: Prior to construction and securing required permits, design of the system will be made available for review of the Town, DOH and County Public Health Department.
- Design and construct new water main and private service lines to connect residences to the Town of Coupeville's drinking water distribution system for those homes now and in the future where PFOS and/or PFOA exceed the LHA.
- Obtain all required access agreements and permits to perform the work;
- Develop O&M plans for the PFAS treatment ~~system~~ plant; and
- Obtain necessary approvals from Town of Coupeville, Washington State Department of Health and Island County Public Health Department.

A separate and more detailed Memorandum of Understanding (MOU) between the Navy and the Town of Coupeville will be negotiated within 90 days of the date of this letter to clarify the roles and responsibilities between the Navy and the Town as we continue planning, design and construction. The MOU will memorialize the long-term solution described above and will be signed by the Town and the Navy. Construction and installation of the treatment system improvements will not occur until the MOU is agreed upon and signed by Town and the Navy.

After construction of the ~~system~~system and acceptance of the improvements by the Town, the operational requirements and physical improvements of the treatment system are intended to be transferred from the Navy to the Town of Coupeville under an Environmental Services Cooperative Agreement (ESCA). The ESCA will detail the requirements and fund the Town or its qualified contractor to conduct O&M in accordance with the finalized O&M plans. The ESCA will also include funding to conduct required drinking water monitoring to maintain effectiveness of the treatment system and ensure the Town's drinking water remains below the EPA's LHA as they currently read or are hereafter amended. The agreement will be for two years, funded annually, and renewed every two years ~~as necessary, until based on reliable scientific data the threat of water supply contamination from PFASOA's to the Town supply and private wells has been eliminated.~~

The Navy appreciates the support and cooperation of the Town of Coupeville as we work to address this public health concern. If you have technical questions, please address them to the Navy's Remedial Project Manager, Ms. Kendra Leibman at kendra.leibman@navy.mil or contact her by phone at 360-396-0022. If you have other concerns, please don't hesitate to contact me directly.

Sincerely,

G. C. MOORE
Captain, U.S. Navy
Commanding Officer
Naval Air Station Whidbey Island

Leibman, Kendra R CIV NAVFAC NW, EV32

From: Leibman, Kendra R CIV NAVFAC NW, EV32
Sent: Thursday, June 14, 2018 16:57
To: Generous, Christopher CIV NAVFAC NW, EV32; 'Molly Hughes'; Maco, Rebecca/SEA; Maring, Matt/SEA; 'Joe Grogan'; 'Kelly Riepma'; 'Madsen, Jennifer/SEA'
Subject: RE: Monthly Update for the Coupeville Long-Term Solution
Attachments: Fig3_Site_Layout_Overview.pdf

Good afternoon,

Below is an agenda for tomorrow's meeting:

Agenda

- * Town's Comments on design
- * Design Basis
 - * Approach
 - * Treatment – GAC preferred alternative
 - * Supply – Pipeline extension and pump system upgrades
 - * Reference PDR Figure 1-2
 - * Capacity
 - * 2 GAC trains @ 250 gpm EA
 - * Provisions for future 3rd GAC train
 - * Reference Figure PDR 2-1
 - * Siting
 - * Reference Figure PDR 1-3
- * Predesign Field Work and Coordination
 - * Utility locates
 - * Geotech – 13 proposed borings (see attached map)
 - * Survey – to take place after geotech
 - * Historic and Cultural Resources – will be on-site for observation during drilling
 - * Permitting during field work
 - * Island County – ROW Permit
 - * WSDOT – General Use Permit
 - * Easements (Big Cedar Lane)
- * Town's comments on MOU

Thanks!
Kendra

-----Original Appointment-----

From: Leibman, Kendra R CIV NAVFAC NW, EV32
Sent: Thursday, December 28, 2017 6:33 PM
To: Leibman, Kendra R CIV NAVFAC NW, EV32; Generous, Christopher CIV NAVFAC NW, EV32; 'Molly Hughes'; Maco, Rebecca/SEA; Maring, Matt/SEA; 'Joe Grogan'; 'Kelly Riepma'; 'Kim Hinds'
Cc: 'Madsen, Jennifer/SEA'
Subject: Monthly Update for the Coupeville Long-Term Solution
When: Friday, June 15, 2018 11:00-12:00 (UTC-08:00) Pacific Time (US & Canada).



DEPARTMENT OF THE NAVY

NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5726

Ser N46/ 1232

April 24, 2018

The Honorable Molly Hughes
Mayor of Coupeville
P. O. Box 725
Coupeville, WA 98239

Dear Mayor Hughes:

SUBJECT: LONG-TERM DRINKING WATER PROTECTION ACTIONS FOR TOWN OF
COUPEVILLE

I am writing to you regarding the U.S. Navy's drinking water investigation near Naval Air Station Whidbey Island's Outlying Landing Field Coupeville for per- and polyfluoroalkyl substances (PFAS), specifically perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). The Navy's decision on a long-term solution addresses both private drinking water wells with exceedances above the Environmental Protection Agency (EPA) Lifetime Health Advisory (LHA), as confirmed by the Navy, and protection of the Town of Coupeville's drinking water from potential impacts of PFOS/PFOA. The Navy will design and install a PFAS treatment system to ensure the Town's drinking water remains below the LHA and extend the drinking water distribution system to affected residents. The Navy appreciates your support in executing this solution and is providing this letter to clarify the Navy's intentions. The action will include three parts: 1) design, 2) construct the PFAS treatment system and extension of water distribution lines; and 3) operation and maintenance (O&M) of the PFAS treatment system until an Environmental Services Cooperative Agreement (ESCA) is in place.

The design and construction of the treatment system will be conducted by the Navy and Navy contractors in coordination with you and the Town of Coupeville Utilities and Public Works Department. The work will include the following:

- a. Design and construct a treatment system for the Town of Coupeville's drinking water system to ensure PFOS and/or PFOA remain below the LHA. The design will include adaption alternatives to address future applicable federal or state PFAS drinking water regulations;
- b. design and construct new water main and private service lines to connect residences to the Town of Coupeville's drinking water distribution system for those homes where PFOS and/or PFOA exceed the LHA;
- c. obtain all required access agreements to perform the work;
- d. develop O&M plans for the PFAS treatment system; and
- e. obtain necessary approvals from Washington State Department of Health and Island County Public Health Department.

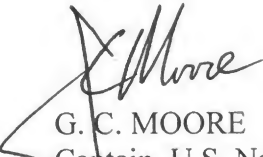
5726
Ser N46/ 1232
April 24, 2018

A separate and more detailed Memorandum of Understanding (MOU) between the Navy and the Town of Coupeville will be negotiated to clarify the roles and responsibilities between the Navy and the Town of Coupeville as we continue planning, design and construction. The MOU will memorialize the long-term solution described above and will be signed by the Town of Coupeville and the Navy.

After construction of the system, the operational requirements of the treatment system are intended to be transferred from the Navy to the Town of Coupeville under an ESCA. The ESCA will detail the requirements and fund the Town to conduct O&M in accordance with the finalized O&M plans. The ESCA will also include funding to conduct required drinking water monitoring to maintain effectiveness of the treatment system and ensure the Town's drinking water remains below the EPA's LHA. The agreement will be for two years, funded annually, and renewed every two years, as necessary.

The Navy appreciates the support and cooperation of the Town of Coupeville as we work to address this public health concern. If you have technical questions, please address them to the Navy's Remedial Project Manager, Ms. Kendra Leibman, at kendra.leibman@navy.mil or 360-396-0022. If you have other concerns, please do not hesitate to contact me directly.

Sincerely,



G. C. MOORE
Captain, U.S. Navy
Commanding Officer

Molly Hughes

From: Leibman, Kendra R CIV NAVFAC NW, EV32 <kendra.leibman@navy.mil>
Sent: Wednesday, January 31, 2018 12:49 PM
To: Molly Hughes
Cc: Joe Grogan
Subject: FOUO- Coupeville Impacted Parcels
Attachments: FOUO Coupeville Impacted Parcels.pdf

Hi Molly,

Attached is a map showing the impacted parcels.

The names and addresses are shown below.

Cliff & Kristine Fellrath	15148 State Route 20
James Heidinger	310 Big Cedar Lane
Keith & Jan Hovland	15207 State Route 20
Gary & Jane Johnsen	15218 State Route 20
Mark & Kristi Korzan	294 Big Cedar Lane
Mike & Pat Millenbach	1023 Keystone Hill Rd
Steve & Sandra Swanson	15203 State Route 20
Oscar Bececca (home owner)	shares well w/Johnsen
David & Melanie Hovland	shares well w/Swansons
Andrew & Jennifer Crawford	258 Big Cedar Lane

I look forward to meeting with you on Friday.

Kendra

Kendra Leibman, P.E.
Remedial Project Manager

NAVFAC NW
1101 Tautog Circle, Suite 203
Silverdale, WA 98315-1101

(O) 360-396-0022
(C) 509-999-6843
(F) 360-396-0857
kendra.leibman@navy.mil

2025-2034

APTIM

Meeting Agenda

Date: August 3, 2018

Location: Meet at Coupeville Town Hall

Subject: Town of Coupeville Long-Term Solution Update

Participants:

Town of Coupeville (Mayor Molly Hughes, Joe Grogan, Kelly Riepma)

US Navy (Kendra Leibman)

Jacobs Engineering (Rebecca Maco & Matt Maring)

1. Design Basis Information
 - a. WTP Site Surveying - Initial Survey Complete
 - b. Pipe Alignment Surveying and Wetland Investigations (start mid-August 2018) - Pending permitting and traffic control plan approval
 - c. Geotechnical Investigation Borings and Historic/Cultural Resources Review (start mid-August 2018) - Pending services contract negotiation/award, permitting, and traffic control plan approval
 - d. WTP Pump Hydraulics Test Protocol - Under Development
2. Pre-Design/Design Development
 - a. Process Mechanical Design Concept and Layouts - Complete
 - b. Predesign Sizing and Hydraulic Calculations - In Progress
 - c. WSDOH Review Comment Responses - In Progress
 - d. Electrical Systems Integration Planning - In Progress
 - e. Instrumentation and Controls Systems Integration Planning - In Progress
 - f. 30% Design Workshop Review/Comment - 2, 3, 4 or 5 October 2018 (one day)
 - g. Building type (CMU or Pre-engineered) - Discuss
3. Delivery Planning
 - a. GAC System Procurement and RSSCT Testing Documents - In Progress, proceeding in parallel with Pre-Design, will specify GAC vessel configuration to allow flexibility for use of GAC and IX media fill
 - b. Construction Packages - WTP Improvements, Pipeline Improvements
 - c. Schedule Updates and Phasing - In Progress, Phasing will be structured to include separate overlapping timelines for GAC Procurement, Treatment Process Improvements, Pumping Improvements, and Pipeline Improvements
4. Town/Navy Contract
 - a. The tasks listed below will be contract...any more needed?
 - Review water line easement for Big Cedar Lane. The Town will file the easement.
 - Conduct an appraisal on each private property along the water line main on Big Cedar Lane. *Town appraises*
 - Negotiate and pay easement cost with each home owner on Big Cedar Lane where an easement is required for the water main line.
 - Review working right of ways on Island County and Washington State Department of Transportation (WSDOT) property for water line on Island County and WSDOT property.
 - Review all iterations of the PFAS treatment system and pipeline distribution system design.

Review Comment

*- Survey
- title search
- make easement document*

fixed pipe cap.

End of August

sole source contract



- Review Remedial Action Work Plans for construction of PFAS treatment system and pipeline distribution system design.
- Review PFAS Operations and Maintenance Plan for PFAS treatment upgrades.

5. August 13 Coupeville Resident Meeting, CPO Club, 5-7pm
6. August 14 NASWI RAB Meeting, CPO Club, 5-7pm

Timeline ready?

engineering
inspection
Legal → easements & O & M

August →

One year O & M responsibility to
construction contractor.

right of entry
temp - construction easement
perm - utility
GAC
time line
PFOS & PFDA



DEPARTMENT OF THE NAVY
NAVAL AIR STATION WHIDBEY ISLAND
3730 NORTH CHARLES PORTER AVENUE
OAK HARBOR, WASHINGTON 98278-5000

5090
Ser N44/2334
July 31, 2018

The Honorable Molly Hughes
Mayor of Coupeville
PO Box 725
Coupeville, WA 98239-0725

Dear Mayor Hughes:

SUBJECT: REQUEST FOR SECTION 106 CONSULTATION ON THE FINDING OF NO HISTORIC PROPERTIES EFFECTED FOR THE PROPOSED GROUND DISTURBING ACTIVITIES TO PERFORM A GEOTECHNICAL INVESTIGATION FOR NEW WATER LINES, COUPEVILLE, ISLAND COUNTY, WASHINGTON.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and its implementing regulations 36 CFR 800, Naval Air Station (NAS) Whidbey Island is continuing consultation and asks for your comments on the finding of No Adverse Effect to Historic Properties for the proposed ground disturbing activities to perform a geotechnical investigation for construction of future water lines located near OLF Coupeville, at State Route 20, Wanamaker Rd, Keystone Hill Rd, and Big Cedar Ln, Coupeville, Island County, Washington (enclosures 1 and 2).

The Navy proposes to conduct geotechnical borings near OLF Coupeville. The geotechnical investigation will include up to 13 borings (enclosure 3). Boring data will guide the potential location of future waterlines. Once the geotechnical data has been analyzed, the Navy will consult with the consulting parties on the proposed construction of a waterline in this area.

Proposed work for boring includes:

- Drill up to 13, 7.25-inch diameter core holes in the footprint of the future water lines. Boring locations will have a 50-foot buffer to accommodate avoidance of driveways, utility locations, etc.
- Sample soil using hollow stem auger drilling equipment to an approximate depth of 10 to 40 feet.

The Area of Potential Effect (APE) for this undertaking includes the locations of the proposed borings in T31 R1E S13 (enclosure 4). Ground disturbance is limited to the geotechnical borings. Staging and access will occur on existing paved or graveled surfaces.

Excavations may penetrate fill and encounter native sediments, however the expected geology consists of glaciomarine drift and partridge gravel.

In an effort to identify historic properties within the APE, the Navy has reviewed available environmental and cultural literature within 200 meters of the project area (Table 1). The review determined two historic structure survey reports, one archaeological survey report and one monitoring report. The surveys resulted in the recording of several historic structures on Ault Field and Seaplane Base, but no historic properties are located within the APE.

Location	Author	Title	Report Type
AF, SPB, Raycon Hill, OLF	Chidley, Michael et al. 2013	Naval Air Station Whidbey Island Cold War Study Phase 2: Inventory and Evaluation	Historic Structures Survey Report
AF, SPB, Raycon Hill, OLF	Hampton, Roy et al. 2010	Phase I Architecture Survey of Naval Air Station Whidbey Island	Historic Structures Survey Report
AF, OLF	Jones, Jason 2013	Archaeological Inventory of Outlying Landing Field, Coupeville and Select Lands of Ault Field, Naval Air Station Whidbey Island	Archaeological Survey Report
Coupeville	Bush, Kelly 2010	Archaeological Investigation and Monitoring Report: Town of Coupeville Waterline	Monitoring Report
Ebey's Landing	1973	Central Whidbey Island Historic District NHPA Nomination Form	NHPA Nomination Form
Ebey's Landing	R.E. Dickenson 1980	Comprehensive Plan for Ebey's Landing National Historic Reserve	EIS
Ebey's Landing	D. Duer 2009	Ebey's Landing National Historical Reserve: An Ethnohistory of Traditionally Associated Contemporary Populations	Ethnohistory
Ebey's Landing	S. Steen et al. 2016	Ebey's Landing National Historical Reserve Historic Buildings Inventory 2016 Update	Historic Structures Survey Report
Ebey's Landing	G. Evans-Hatch et al. 2005	Historic Resources Study: Ebey's Landing National Historic Reserve Whidbey Island, Washington	Historic Context Study

Table 1

Our literature review also revealed the following information regarding the APE:

- The underlying geology of the ground disturbing APE consists of Pleistocene glaciomarine drift and high-energy outwash gravel. Soils within the APE are classified as

Keystone-Utsalady complex, and Sucia-Sholander cool complex. Both the Keystone and Sucia complexes consist of well-draining loamy soils formed in glacial outwash. These soils are found in valleys of drift plains. These soils are ideal for livestock pasture, crop production, and forestry. Natural vegetation consists of doug fir, lodgepole pine, oceanspray, salal, Oregon grape, and bracken fern (https://soilseries.sc.egov.usda.gov/OSD_Docs/SUCIA.html accessed 7/30/2018).

- No prehistoric or historic-era archaeological sites have been recorded within 200 meters of the APE. The nearest archaeological site, 45IS317, is located 211 meters north of the APE. 45IS317 is a historic isolate consisting of a whiteware fragment. Shovel tests were performed at the site, but no other artifacts were located.
- The proposed activity is occurring in Central Whidbey Island Historic District within boundary of the Ebey's Landing National Historical Reserve. The proposed undertaking will not impact any contributing or eligible historic property or viewshed in the Central Whidbey Island Historic District.

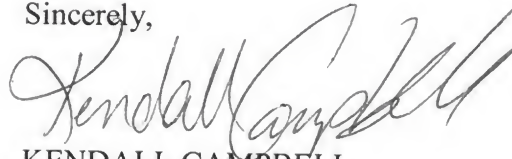
The Navy has determined that the proposed undertaking will have No Adverse Effect to Historic Properties because no archaeological sites are known to exist within the APE, no eligible or contributing historic property in the Central Whidbey Island Historic District will be adversely affected by the proposed undertaking, and there is little likelihood for in-tact archaeological deposits to be present in the APE.

Although it is highly unlikely that archaeological resources will be found, there is always the potential for an unanticipated discovery. Therefore, a copy of the inadvertent discovery plan will be provided to the contractor alerting them to cease work and notify the Cultural Resource Program Manager if a discovery is made.

The Navy understands that the APE and its surrounding location may have cultural importance and significance to members of the traditional cultural groups of Whidbey Island. In order to identify possible religious or cultural significance to affected tribes, the Navy has initiated consultation with the Swinomish Indian Tribal Community, the Samish Indian Nation, the Upper Skagit Indian Tribe, and the Stillaguamish Tribe of Indians. The Navy has also initiated consultation with the State Historic Preservation Officer (SHPO), National Park Service, and Ebey's Landing National Historical Reserve.

The Navy requests your comments on the finding of No Historic Properties Effectuated for the proposed undertaking. If you require additional information, I can be reached at (360) 257-6780 or email at Kendall.Campbell1@navy.mil.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kendall Campbell', written in a cursive style.

KENDALL CAMPBELL

NASWI Cultural Resources Program Manager and
Archaeologist

By Direction of the Commanding Officer

- Enclosures:
1. Location of Coupeville WA
 2. Location of Undertaking
 3. Proposed Exploration Locations
 4. Area of Potential Effects



Enclosure 2

MEMORANDUM OF UNDERSTANDING
between
THE TOWN OF COUPEVILLE, WASHINGTON
and
THE U.S. DEPARTMENT OF THE NAVY
Regarding
Long-Term Drinking Water Protection Actions for the
Town of Coupeville

THIS MEMORANDUM OF UNDERSTANDING (hereafter the "MOU") is entered into this 23rd day of July, 2018, by and between the Town of Coupeville, Washington (hereafter referred to as "Coupeville") and the United States Navy (hereafter referred to as "the Navy") for the specific purposes set forth herein. When referred to collectively, Coupeville and the Navy are referred to as the "Parties."

1. BACKGROUND

- 1.1. Coupeville is an incorporated municipality under the Revised Code of Washington.
- 1.2. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601 *et seq.*, as amended, and the Defense Environmental Restoration Program (DERP), 10 U.S.C. §§ 2701 *et seq.*, as amended, establish site remediation obligations on the Department of Defense (DoD), including the Navy.
- 1.3. The Navy has sampled drinking water near Naval Air Station Whidbey Island's Outlying Landing Field (OLF) Coupeville and identified eight drinking water wells containing perfluorooctane sulfonate and/or perfluorooctanoic acid (PFOS/PFOA) concentrations above the Environmental Protection Agency's (EPA's) Life Time Health Advisory (LHA). The Navy has also determined that Coupeville's primary water supply well contains PFOS/PFOA just below the EPA's LHA.
- 1.4. The Navy has sampled groundwater at OLF Coupeville and found concentrations of PFOS/PFOA above the EPA's LHA. The Navy continues to delineate the extent of PFOS/PFOA contamination at the site and the potential to migrate into the surrounding areas including the drinking water supply for Coupeville.
- 1.5. Although all potential sources of the PFOS/PFOA in the drinking water may not have been identified, the Navy has proposed a long-term solution to protect Coupeville's drinking water from impacts of PFOS/PFOA in groundwater. This long-term solution has been discussed with Coupeville, Washington State Department of Health, Washington State Department of Ecology, Environmental Protection Agency, Island County and affected residents, and has been described in correspondence between the Navy, Coupeville, and the affected residents. This MOU memorializes the Navy's path forward to implement the proposed long-term solution.

2. AUTHORITIES

2.1. The Navy enters into this MOU under its authority pursuant to DERP, implementing DoD and Navy Directives, Instructions and Manuals, and CERCLA and its implementing regulations.

2.2. Coupeville enters into this MOU under its authority pursuant to RCW 35.27.370, RCW 35.23.352 and Chapter 39.34 RCW.

3. PURPOSE

3.1 This MOU is entered into by Coupeville and the Navy for the purpose of establishing the path forward for implementing the Navy's proposed plan for Coupeville's drinking water system. This MOU applies to the Navy's planned removal actions conducted under CERCLA/DERP to address drinking water which contains PFOS/PFOA concentrations above the EPA's LHA, as more specifically set forth below. The Parties contemplate the negotiation and award of an Environmental Services Cooperative Agreement (ESCA), under which the Navy will provide funding to Coupeville for long-term maintenance and operation of the proposed water treatment system. The parties agree to negotiate said agreement in good faith with the goal being a final ESCA Agreement upon completion of the proposed water treatment system.

4. UNDERSTANDINGS OF THE PARTIES

4.1. In order to implement the Navy's planned response actions conducted under CERCLA/DERP to address drinking water which contains PFOS/PFOA concentrations above the EPA's LHA, the Navy will:

4.1.1. Design and construct a treatment system for Coupeville's drinking water system to ensure PFOS and/or PFOA remain below the LHA, which design will include adaption alternatives to address future applicable federal or state PFAS drinking water regulations. In the event the treatment system fails or is unable to treat Coupeville's drinking water to be below the LHA, the Navy will undertake design and construction of an alternative treatment system which will perform so as to ensure the water will remain below the LHA;

4.1.2. Design and construct new water mains and private service lines to connect residences where PFOS and/or PFOA exceed the LHA to Coupeville's drinking water distribution system;

4.1.3. Develop an Operations and Maintenance (O&M) Plan for the PFAS treatment system and operate and maintain the PFAS treatment system until the ESCA is executed, after which time Coupeville will assume O&M of the system;

4.1.4. Obtain necessary reviews and approvals of the design and construction from Coupeville, Washington State Department of Health and Island County Public

Health Department, as required by such agencies.

- 4.1.5. Transfer operation of the treatment system to Coupeville under the ESCA until treatment is determined to be no longer necessary or a permanent remedial action decision is made. The water distribution lines will be installed to the standard for operation as required by Coupeville. After installation is complete, the Navy will transfer unencumbered ownership of all improvements to Coupeville, as appropriate or necessary.
- 4.1.7. Continue current groundwater and drinking water monitoring for PFAS compounds until the Navy determines monitoring is no longer necessary to protect human health and the environment.

4.2 Coupeville will:

- 4.2.1 Consistent with Coupeville Town Code, provide timely reviews and approvals to the Navy and/or its contractor(s), as necessary, to implement the proposed response action. Specifically, Coupeville will review and approve the following:
 - a. The PFAS treatment system and water line distribution system design;
 - b. The PFAS construction plans;
 - c. The Operation and Maintenance Manual for the PFAS treatment system.

The above list is not exhaustive and other reviews and approvals may be required consistent with Coupeville Town Code and adopted standards, Island County standards, and State Department of Health regulations as applicable to implement the removal action.

- 4.2.2 Assume responsibility for operations and maintenance of the treatment system after execution of the ESCA; and
- 4.2.3 As necessary, assist the Navy in effectively communicating the planned response action with affected residents and stakeholders.

4.3 The Navy and Coupeville will enter a contract to fund and obtain the necessary utility easements and associated access to implement the proposed response action. Any access agreements that are not required to be obtained by Coupeville via the contract will be obtained by the Navy's contractor.

- 5. **PERSONNEL:** Each Party is responsible for all costs of its personnel, including pay and benefits, support, and travel. Each Party is responsible for supervision and management of its personnel.

6. GENERAL PROVISIONS:

6.1. Points of Contact: The following points of contact will be used by the Parties to communicate in the implementation of this MOU. Each Party may change its point of contact upon reasonable notice to the other Party.

For the Navy:

Program POC:

Dina Ginn
DERP Navy Program Manager
360-396-0016
dina.ginn@navy.mil

Technical POC:

Kendra Leibman
DERP Navy Project Manager
360-396-0022
kendra.leibman@navy.mil

For Coupeville:

Program POC:

Ms. Molly Hughes
Honorable Mayor of Coupeville
360-678-4461
mayor@townofcoupeville.org

Technical POC:

Mr. Joe Grogan
360- 678-4461
Utility Superintendent
utilities1@townofcoupeville.org

6.2. Funds and Manpower: This MOU does not document nor provide for the exchange of funds or manpower between the Parties, nor does it make any commitment of funds or resources. Actions undertaken by the Navy pursuant to Article 4.1 will generally be performed through the Navy's environmental restoration contractor, unless performed directly by Navy personnel. The Navy's contractor for construction shall be licensed, bonded and insured contractor authorized to do business in the State of Washington

6.3. Modification of MOU: This MOU may only be modified by the written agreement of the Parties, duly signed by their authorized representatives. This MOU will be reviewed biennially on or around the anniversary of its effective date.

6.4. Disputes: Any disputes related to this MOU will, subject to any applicable law, Executive order, directive, or instruction, be resolved by consultation between the Parties.

6.5. Termination of MOU: This MOU may be terminated upon 30 days' notice by either Party.

6.6 Transferability/assignment: This MOU shall not be transferred or assigned except by the written consent of the Parties.


6.7. Entire Understanding: It is expressly understood and agreed that this MOU embodies the entire understanding between the Parties regarding the MOU's subject matter as of the date of its execution.

6.8. Effective Date: This MOU takes effect beginning on the day after the last Party signs.

6.9. Expiration Date: This MOU expires whenever any one of the following events occur:
a. the actions set forth in this MOU and the ESCA are completed;
b. the Navy determines that the response action is no longer required; or
c. ten years from the effective date.

6.10. Authorities of the Parties: Nothing in this MOU alters, limits, or supersedes the authorities and responsibilities of either Party on any matter within its jurisdiction. Nothing in this MOU shall require either Party to act beyond its authority. The roles, responsibilities, terms and conditions of this MOU will not supersede or be interpreted in a manner inconsistent with applicable laws and regulations. Nothing in the MOU shall be construed as a waiver of any right either party may have in equity or law.

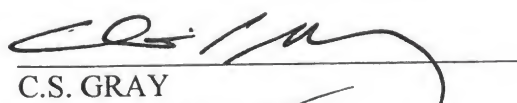
On Behalf of the Town of Coupeville



Honorable Mayor, Town of Coupeville
Ms. Molly Hughes

Date: 7/23/2018

On Behalf of the U.S. Department of the Navy



C.S. GRAY
Rear Admiral, U.S. Navy
Commander, Navy Region Northwest

Date: 7/19/18

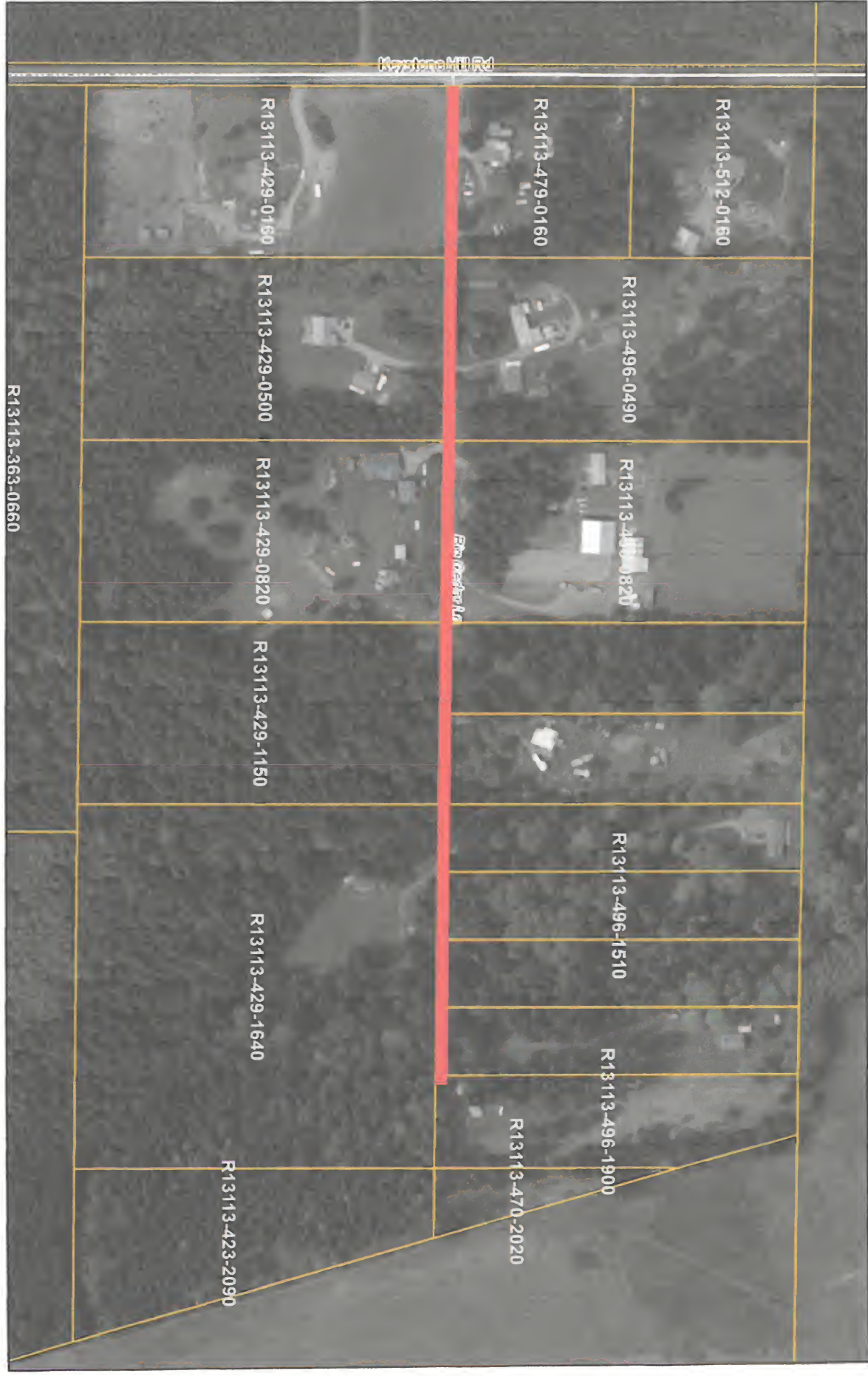
Updated Timeline



Action	Milestones
Pre-Design Field Work	Sept 2018-Oct 2018
Award contract with Town for easement on Big Cedar Lane	TBD Late Oct - Nov
Award contract for pipeline construction Awarded	26 Sept 2018
Permitting and 106 consultation for construction	Oct 2018-Jan 2019
30% Design	Oct 2018
90% Design	Dec 2018
100% Design	Jan 2019
Phased Construction*	Jan-Aug 2019
Award Cooperative Agreement to Town for PFAS Treatment Plant O&M	NLT Sept 2019

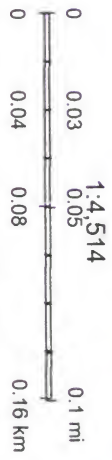
*Goal: PFAS treatment plant up and running before Summer 2019.

Island County Parcel Viewer Map



9/12/2018, 5:11:15 PM

- Plats
- Tideland Only Parcels
- Quarter Sections
- Roads
- Local
- Private
- Condo
- No Adjacent Land
- One Way Directions
- Highway
- Collector and Arterial
- Plat
- Parcels
- Road Closures



Island County, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User
Island County Parcel Viewer Map Export
DO NOT USE AS A LEGAL DOCUMENT. ACCURACY NOT GUARANTEED

PFAS CONTAMINATION OF OUR DRINKING WATER

What You Should Know - What Can Be Done

It's been over a year since perfluoroalkyl substances (PFASs) from the Navy's Outlying Field (OLF) and Ault Field were found in public and private drinking water supplies.

Coupeville's PFAS contaminated water is still distributed to schools, homes, and the hospital. Levels of PFASs still exceed the health advisories of a number of states.

Families a mile from the OLF have had to abandon private wells because of PFAS contamination many times higher than EPA's health advisory level. After a year, they still drink, cook, and brush their teeth with water from plastic bottles delivered by the Navy.

People have a right to know about chemicals in the water they drink – especially those that build up in our bodies and have been linked to a host of health problems.¹

The following information makes the case that those who should be protecting the community and its water are not doing so with the sense of urgency our contamination problem deserves. In some cases they have refused even to acknowledge the problem.

Ours is not the first community faced with this problem, and as mentioned at the end, not the only one where I have seen it play-out. Common sense and past experience says more can and should be done to address it. Rick Abraham 12-2-2017

Keeping the Public in the Dark

Our PFAS pollution results from the Navy's use of PFAS containing fire-fighting foam in its training exercises. The Navy has been neither proactive nor transparent in its response to this contamination. After a year, it has yet to identify the long-term solution it promised.

After finding PFASs in on its own property, the Navy tested nearby public and private drinking water supply wells, but for only *three* PFASs. It did not test for PFHpA and PFHxS, two chemicals it found in its own water.²

When the Navy tested the community's water from November 2016 to June 2017, it used higher detection limits than were used on its own property.³ This allowed PFASs found in the water on its own property to go undetected in the community's water.⁴

Island County Health kept the plan for this investigation from the public, at the Navy's request, until after testing was underway.⁵

Coupeville's PFASs Finally Revealed

The Navy was not alone in keeping the public in the dark. In January of 2017, when The Town of Coupeville announced that PFOA had been found in its water, Mayor Molly Hughes stated, "*We will continue to be completely transparent as new issues arise and new information is received.*"

It was later revealed that the Town had begun independently testing its water for five other PFASs in November of 2016, but waited until October 2017 to tell its water customers about all that were found, including perfluorohexane sulfonate (PFHxS) and perfluoroheptanoic acid (PFHpA)

There are concerns about the presence of PFASs in breast milk and umbilical cord blood, and the fact that levels found in the blood of infants and children are generally higher than in adults.⁶

Studies have linked PFHxS to immune system suppression and attention-deficit/hyperactivity disorder (ADHD) in children.^{7 8} It takes 8.5 years for the body rid itself of half the PHFxS it has accumulated.

It is not surprising that some of PFASs, including PFHxS and PFOA, have been reported in the blood of Whidbey's pollution victims more than a hundred times the amount found in their contaminated water – and a thousand more than EPA's acceptable level for PFAS in drinking water.

Navy's Testing Still Leaves PFASs Undetected

In October of 2017 the Navy retested public and private water wells, this time with more sensitive detection limits and for *fourteen* PFASs instead of just three. However, this testing was only available to owners of wells where a PFAS had been previously detected. Wells adjacent to a property where a PFAS was detected above EPA's advisory limit were eligible for retesting, but not those with lower detections.

These loopholes effectively continued a 'one-test and walk away' policy for some wells where PFASs were found, and others at risk of contamination. The Navy ignored the reality of a spreading plume of contamination that can impact a well not previously contaminated – and that levels lower than EPA's advisory can over time increase to them.

- The well at the County's Rhododendron Park is close to the OLF and Coupeville's contaminated supply well. Yet, it has not been tested since December of 2016, and never for all the PFASs known to be in the aquifer.
- Wells supplying the homes at Crockett Lake Estates and Admirals Cove, all located to the south of the OLF and in the general direction the contamination, were not retested.

What is Safe - Standards and Advisories

The Navy and public officials are quick to point out that PFASs are unregulated chemicals without enforceable standards – implying that they are therefore safe to be drinking.

In fact, a chemical could be suspected – or even proven – to have adverse health effects and still not be regulated under the Safe Drinking Water Act.⁹ Many chemicals without standards have been detected in drinking water above the levels that authoritative scientific studies have found to pose health risks.¹⁰

- Hexavalent chromium, an industrial chemical made notorious by the film "Erin Brockovich," is unregulated after being detected in the drinking water of 250 million Americans.
- The industrial solvent 1,4-dioxane is unregulated despite being found in the drinking water of millions of people at levels above those the EPA considers to pose a negligible cancer risk.¹¹

Although EPA hasn't established enforceable standards for PFASs, it has set health advisory levels – but only for two of them. The EPA's health advisory level for PFOA and PFOS of 70 parts per trillion in drinking water has been widely criticized for not being adequately protective – which is why some states have more protective advisories. This is why some include PFHxS and PFHpA in their health advisory.¹²

The lack of an EPA health advisory for PFASs, other than PFOA and PFOS does *not* mean they are safe to be drinking. It means they haven't been studied enough, in EPA's opinion, to make a determination one way or another.

Is the Water Really Contaminated?

Coupeville Mayor Molly Hughes has written that Coupeville's water was, "*not technically contaminated.*"¹³ She publicly accused a concerned citizen of "*carelessly using the word 'contaminated' with reference to Coupeville's drinking water.*" Mayor Hughes characterized the use of the term as an "*intentional distortion*" that was made "*without regard to its emotional or economic effect.*"¹⁴

All the PFASs found in Coupeville's water are listed as "contaminants" in the EPA's Unregulated Contaminant Monitoring Rule (UCMR3). The Mayor and Town's Engineer used the term "*contamination*" in emails to other public officials when describing PFASs in the Town's supply well.

Coupeville was not *required* to monitor or report detections of these PFASs because of its size. However, our regulatory agencies encourage water systems that detect PFASs and other 'unregulated' chemicals to report them in the required annual Consumer Confidence Reports.¹⁵

Coupeville only identified the detection of PFOA in the June 2017 Consumer Confidence Report sent to its customers. The PFHpA, PFHxS and PFBS that had been detected by the Town were not identified.

According to EPA, reporting contaminants serves to, "*Improve public health protection by providing educational material to allow consumers to make educated decisions regarding any potential health risks pertaining to the quality, treatment, and management of their drinking water supply.*"

When Coupeville told its water customers it was "*committed*" to keeping them "*informed about water issues*" it wasn't walking its talk.

The Politics of Pollution

It's expected that polluters want to minimize negative publicity and limit their liability. Our politicians are not the first to accommodate polluters who have political and economic clout. Nor are they the first to keep information from the public, supposedly for the public's own good. Protecting business interests and tourist dollars to easily takes priority over respecting the community's right to know and be protected.

Concerned citizens, including this writer, who have dared to speak the inconvenient truth about PFASs, have been accused of being "alarmists" and their statements characterized as "dangerous" and "fear mongering." The messenger is made to be the issue to divert attention from the message.

Attempts to bully and intimidate people into silence sometimes work. Individuals and public interest groups shrink from controversy and refuse to challenge polluters they fear and politicians they favor. When this happens, no one has the community's back.

Island County Board of Health

When the Navy first began testing the community's water for PFASs, it was doing so in accordance with a Sampling and Analysis Plan shared with the County Health Department. The plan was *not* shared with the people whose water was being sampled. When a public records request for the plan was denied, this writer criticized the Navy and Board of Health for not revealing which PFASs were being sampled or the detection limits being used.¹⁶ Health Board member Grethe Cammermeyer, responded by accusing this writer of being an alarmist without all the facts.¹⁷

As it turns out, the Navy did not sample for all the PFASs known to be in the water and did use detection limits that would allow some PFASs to go undetected. The Board of Health was unaware of the fact that Coupeville had already detected PFHxS and other PFASs in public drinking water.¹⁸

The fact that our Island County has not asked for the retesting of the well at Rhododendron Park, not conducted any tests on its own, nor to independently identify the extent of the Navy's spreading plume of contamination, speaks to a bigger political problem.

Whidbey General Hospital

Whidbey General Hospital has known or should have known that it was providing PFAS contaminated water to its unknowing patients, employees and visitors. On April 10, 2017, this writer suggested that the hospital install a proper filtration system to keep PFASs out of its water - or at least inform them of the PFASs present. The next day, Coupeville Mayor, Molly Hughes and hospital CEO, Geri Forbes exchanged emails proposing wording to be used in rejecting the request.

When Forbes referenced the hospital's ice-machine and drinking water filtration, Mayor Hughes wrote,

*"I would leave out the part about your filter. Unless you know for a fact that you use activated charcoal and your filter system is large enough to treat the hospital's water and the media is changed out often enough, I think it's risky to imply you are treating your water for these compounds. Someone will check. Richard has already threatened to test it on the sly"*¹⁹

In a September 19th Whidbey News Times article, that hospital announced that a one-time and *not-to-be-repeated* test found the hospital's water to be "just fine." George Senerth, executive director of facilities, stated, *"The water coming from the town is fine."* CEO Geri Forbes even stated she would drink the water. Greta Cammermeyer, who sits on the hospital and health boards accused this writer of being an "alarmist" who was "blowing hot air."

It is likely that the hospital's water is still contaminated with PFASs because it does not have the kind of filtration system that Coupeville's Mayor recognized as necessary. Also, because of the hospitals flawed one-time test of its own water used different laboratories with different detection limits to compare before and after test results of its water.²⁰

Coupeville's Schools

If PFASs have not been removed from Coupeville's water, and the schools in Coupeville do not have the kind of filtration system the Mayor described in her email to Whidbey General Hospital CEO Geri Forbes, those who drink the school's water are being exposed to PFASs.

Solutions Awaiting Implementation

No one has claimed that every exposure to PFASs will evidence health harms – no more than everyone who smokes will get cancer. But there are risks associated with exposures and common sense dictates exposures should be eliminated.

Removing the PFASs from the aquifer will be costly and extremely difficult to do. The good news is that they can be kept out of drinking water. Contaminated wells can be filtered or relocated. Vulnerable wells, like Coupeville's Fort Casey wells, can be protected.²¹

Possible solutions are being discussed, but behind closed doors and without the participation of all legitimate 'stakeholders.' Such discussions can lead to polluter-friendly 'solutions' that allow for contaminants to remain at so-called "acceptable" levels. Costs that should be borne by the Navy can get shifted to taxpayers.

Nothing in the law exempts the Navy from its responsibility to address the contamination it caused. The Defense Department has known for over 30 years that PFAS containing firefighting foam can endanger both human health and the environment.²²

The Town has asked the County about purchasing land for a new well, and inquired about possible state funding for a filtration system, a new well, and extending water supply lines. There have been no *public* demands made of the Navy and no *public* commitment by the Navy to pay for anything specific.

If the citizens of Whidbey Island don't want to the legacy of pollution now in the making, they can learn from the experiences of communities around the country. They must participate in decisions that are currently being made behind closed doors, primarily by those who caused the problem and those who have downplayed or denied it.

All stakeholders, including pollution victims, schools, and the hospital need to be at the table to discuss solutions - and they shouldn't wait to be invited.

PFASs found in Drinking Water Samples taken by the Navy, Town of Coupeville, and/or Citizens

Perfluorooctanoic Acid (PFOA)
Perfluoroheptanoic Acid (PFHpA)
Perfluorohexanesulfonic Acid (PFHxS)
Perfluorohexanoic acid (PFHxA)
Perfluorobutanesulfonic Acid (PFBS)
Perfluorooctane Sulfonate (PFOS)

This list may not include PFASs found in the Navy's most recent testing of public and private wells. Coupeville has received its results, which should be made public.

ABOUT THIS WRITER: Rick Abraham has worked on toxic pollution issues as a public interest advocate for 25 years – for state and national organizations focusing on toxic pollution. They include the National Toxics Campaign (as Southern Regional Organizer); Texas Center for Policy Studies (Director of Toxic Waste Project); Director of the statewide environmental organization Texans United Education Fund; as consultant for a number of law firms representing polluted communities in a number of states; and the Ponca Indian Tribe of Oklahoma. Also as a consultant for various international unions concerned about toxic contamination of their employees and their communities. This work included investigating PFAS contamination in New Jersey, Virginia, North Carolina, Mississippi, and New York State. It involved interfacing taking with regulatory officials, environmental testing and researching internal company documentation of PFAS-related health impacts. This report has been prepared without compensation and offered as a contribution to the community. richardcabraham@gmail.com

¹ According to the Agency for Toxic Substances and Disease Registry states, "The ability of these compounds to be in the body, also known as body burden, increases concerns about the possible effects on human health." Some, but not all studies in humans have shown that certain PFAS may: affect the developing fetus and child, including possible changes in growth, learning, and behavior; decrease fertility and interfere with the body's natural hormones; increase cholesterol; affect the immune system, increase cancer risk.

² October 11, 2016 Analytical Report for Service Request No: K1611172 (OLF)

³ The Method Detection Limit Detection Limit for PFOA in the Navy's sampling of OLF drinking water was 3 ppt. For the Navy's community drinking water investigation, the Detection Limit for PFOA was about 9 ppt.; The Detection Limit for PFOS in the Navy's drinking water investigation on its OLF property was 10 ppt.; For the Navy's community investigation, the Detection Limit for PFOS was about 15 ppt.; The Detection Limit for PFBS in the Navy's OLF drinking water investigation was 10 ppt. For the Navy's community investigation, it was about 44 ppt.

⁴ PFOS found in OLF monitoring wells MW05M, MW14M, MW03D and MW07M at (3.26, .898, .914, and .844 ppt respectively. These were below the Detection Limit of between 14 and 16 ppt used in the Navy's PFOS analysis of community water. (Sources: Table 1 Navy Results of PFOS, PFOA and PFBS in Groundwater, Outlying Landing Field Coupeville; Navy OLF Site Inspection Poster/Fact Sheet); PFBS was found in OLF monitoring wells MW05S and MW09M at 11.2 and 12.9 ppt respectively. The Detection Limit for PFBS in the Navy's community investigation was between 44 and 50 ppt (Sources: Table 1 Navy Results of PFOS, PFOA and PFBS in Groundwater, Outlying Landing Field Coupeville; Coupeville Validated Form 1/LCMS Organics Analysis Data Sheets)

⁵ Public Records Request to Island County Board of Health from R. Abraham of 10/31/16 and response of 11/23/16; R. Abraham public records request of 2/3/2017 for Final Sampling and Analysis Plan; The Island County Health Dept. described by the Navy as a "partner," participated in the development of the plan to test wells in the community and helped with the Navy's messaging to the public.

⁶ Presentation, PFAS Testing at Pease, Highly Fluorinated Compounds – Social and Scientific Discovery Northeastern University, June 14, 2017, Andrea Amico, Alayna Davis, Michelle Dalton; State of New Hampshire Department of Health and Human Services Division of Public Health Services, Pease PFC Blood Testing Program: April 2015 – October 2015; After PFCs were discovered in water leaking from a former Air Force Base in New Hampshire, almost 1600 potentially exposed people had their blood tested (366 children, 31 adolescents, 1181 adults). Elevated levels of PFOA, PFOS and PFHxS were found compared to national averages, with "significantly" higher concentrations found in children aged 11 years and younger. PFHxS was highest PFAS found in the blood samples.

⁷ Pre-natal exposure to perfluoroalkyl substances may be associated with altered vaccine antibody levels and immune-related health outcomes in early childhood, Journal of

Immunotoxicology Volume 10 Issue 4, Pages: 373-379
Published: OCT-DEC 2013

⁸ Exposure to Polyfluoroalkyl Chemicals and Attention Deficit/Hyperactivity Disorder in U.S. Children 12–15 Years of Age, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC300>

⁹ The Safe Drinking Water Act says that a nation-wide standard cannot be established until the following three conditions are met: the EPA must find that a chemical has adverse health effects, that it occurs frequently at levels of public concern, and that there is a meaningful opportunity for health risk reduction for people served by public water systems. This means that a chemical could be suspected – or even proven – to have adverse health effects, but if public water systems across the country lack the capacity to remedy the threat, a national standard can't be established.

¹⁰ Environmental Working Group - <https://www.ewg.org/tapwater/state-of-american-drinking-water.php#.WhuVgq2ZPp4>

¹² Colorado Department of Public Health and the Environment included PFHpA along with PFOA and PFOS in its combined health advisory guidance level of 70 ppt, <https://www.colorado.gov/pacific/cdphe/PFCs/about/unregulated-substances>; Connecticut's "Action Level" above which the state can take action, is 70 ppt for the sum of PFOS, PFOA, PFNA, PFHxS, and PFHpA. (EPA only considers the sum of PFOA and PFOS)

¹³ 6/5/17 Email from Molly Hughes to G. Weed

¹⁴ 1/4/17 Published comments by Mayor Molly Hughes in response to Letter to the Editor by Marion Atwood; When referring to flyer advertising a community meeting the Coupeville Community Alliance, the Mayor stated, "Contaminants in Your Water is a headline meant to cause panic."

¹⁵ Consumer Confidence Report (CCR) Rule, 63 FR 44511, August 19, 1998, Vol. 63, No. 160

¹⁶ 3/3/17 Whidbey News Times Letter to the Editor from R. Abraham

¹⁷ 3/17/17 Whidbey News Times Letter to the Editor from Gretha Cammermeyer

¹⁸ County Hydrologist Doug Kelly, who was the Health Departments liaison with the Navy stated on August 28, 2017 that he was unaware that the Town of Coupeville had tested for more than three PFACs.

¹⁹ 4/11/17 Email from Mayor Molly Hughes to CEO Geri Forbes

²⁰ The hospital, which doesn't have a PFAS filtration system, released the results of its one time "pre-filter" and "post-filter" testing. Different laboratories with different detection limits were used in the comparison tests. The PFHxS found in the "pre-filter" sample would not have been detected in the "post-filter" analysis

²¹ 8/21/17 Meeting with Island County Health's Hydrologist Doug Kelly agreed that the Fort Casey wells are at risk – and surprised they were not already contaminated.

²² Records: Military knew of foam dangers in 2001
By Kyle Bagenstose, staff writer Jul 15, 2017,
[http://www.theintell.com/tncms/asset/editorial/e8e02414-6744-11e7-a404-ff481000f5a8Records a8/](http://www.theintell.com/tncms/asset/editorial/e8e02414-6744-11e7-a404-ff481000f5a8Records%20a8/)





Legend

- Proposed Sample Location
- Proposed Sample Location (well confirmed)
- Surface Water
- Drainage Ditch
- Ault Field 1-mile zone
- Suspected Source Area
- Phase 1 Sample Areas
- Base Boundary

- Assumed Regional Groundwater Flow Direction
- Inferred Regional Groundwater Flow Direction

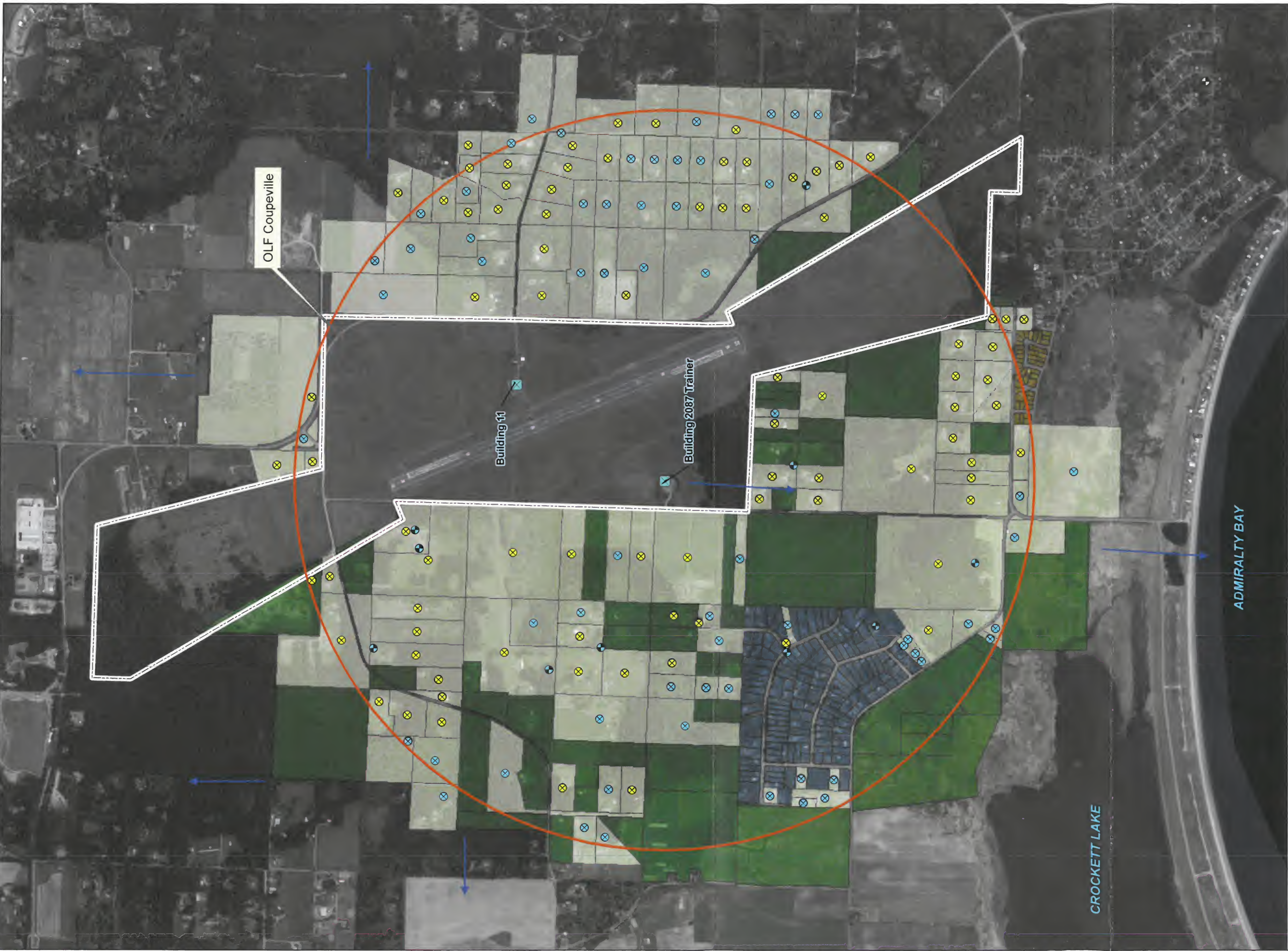
Enclosure 2
Proposed Sample Location Map
Areas 16, 31, and Building 2923
Naval Air Station Whidbey Island
Oak Harbor, Washington



0 0.2 0.4 Miles

1 inch = 0.4 mile

Imagery Source: Esri



Legend

- OLF Coupeville Supply Well
- Community Supply Well
- Proposed Drinking Water Sample Location (Community Supply Well)
- Proposed Drinking Water Sample Location
- Proposed Drinking Water Sample Location (well confirmed)
- Estimated Groundwater Flow Direction
- OLF Coupeville Supply Well - 1-mile zone
- Base Boundary

- Parcel
- Parcel Served by Admirals Cove Water District
- Parcel Served by Town of Coupeville
- Parcel Served by Crockett Lake Water District



0 0.125 0.25 Miles

1 inch = 0.25 mile

Imagery Source: Esri

Enclosure 1

- Proposed Sample Locations
- OLF Coupeville
- Coupeville, WA